THE Soybean Digest

The Pikes of Illinois. See page 33.

Official Publication

AMERICAN SOYBEAN ASSOCIATION

VOLUME 9 • NUMBER 6 APRIL • 1949

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Before You Come to It

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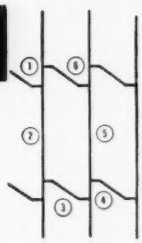

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EDITOR'S DESK

WHERE GET THE SOYBEANS?

Capacity of the nation's soybean processing plants has been rising rapidly, with the installation of new solvent plants in many locations. The economics of processing, including the comparative prices of the oil and the meal, have been conducive to profitable solvent operations. New installations are still being announced as the shift continues.

Major problem of the processors for 1949-50 operations, as we see it, will be to secure sufficient quantities of soybeans to keep their plants in operation. Price ratios of soybeans as compared with other crops, are very unfavorable. The grower who figures through his costs knows it costs him about twice as much, per bushel, to produce soybeans as it does to produce corn. Over a period of years he determines his acreages of the two crops on that basis.

Present prices are very unfavorable to soybeans. Corn is much more profitable, even if sealed or turned over to CCC. Farmers are buying increased quantities of seed corn, drastically cutting soybean acreages. In spite of corn surpluses already accumulating on Midwest farms, the acreage will show an increase over early figures and perhaps over last year. Soybean acreage will be, in our estimation, far below that of last year.

The anticipated support price on soybeans for 1949 will be about one and one-half times the price of corn. Assuming normal weather and planting conditions, it will be insufficient to secure even a semblance of the desired acreage. We will come to the end of the season with far too much corn, which is rather plentiful throughout the world, and with totally inadequate supplies of soybeans, major source of fats and oils, which will still be in world short supply.

When the chips are down—as they are at this stage of the game—price determines soybean production. The farmer's income has shrunk during a period when his costs are going up. He must make every acre produce the maximum number of dollars. He can not do so by producing soybeans at today's price levels, nor at the support level.

If your editor were a processor of soybeans he would be doing some serious thinking about supplies of soybeans for the 1949 crop season. Somebody is going to be sitting on the outside without beans on which to operate. Idle investments pay no returns. On today's product price basis higher prices for soybeans can not be justified. Yet price alone will obtain the raw material for the processor's plants.

SOYBEANS ARE WORTH MORE MONEY! We must get it. Unless we do so it will be the processor who will suffer. The grower is already changing to other crops, has little to lose. The grain dealer has little to lose, for he will also handle the major portion of the corn or small grain crops. The processor has the most at stake—the most to lose.

If I were the owner of a soybean processing plant I would be doing some serious thinking. It would include greater returns to the grower of soybeans. At the same time—as a grower—I would consider the advisability of maintaining or increasing soybean acreage this year. The grower who goes against the tide—increases acreage when others decrease—anticipates supplies in advance—is often the man who is in a position to pay his bills promptly. He profits by higher prices, comparatively speaking. The support price is not a ceiling price.

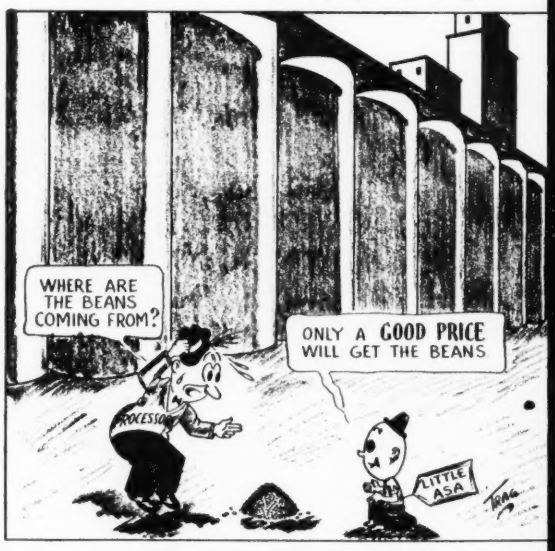
BATTLE MOVES TO SENATE

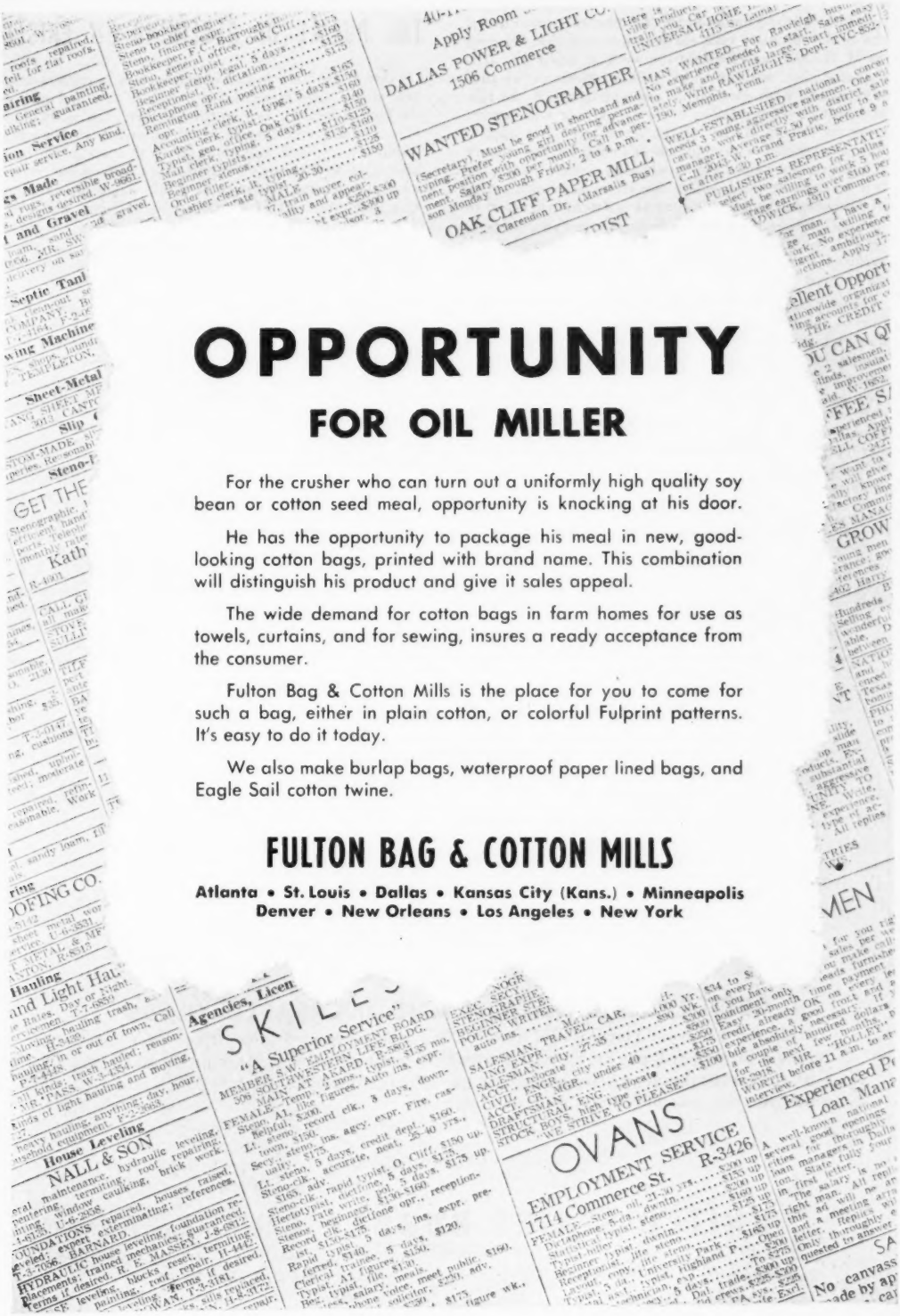
For the first time in 63 years the agricultural committee of the House of Representatives in Washington reported out a bill which would reduce the margarine taxes and restrictions. Never before in history had such a bill even been reported out. The Granger bill as voted out of the committee would have repealed the Federal taxes and license fees on margarine, made it impossible to ship yellow margarine in interstate trade.

When brought to a vote on the floor of the House of Representatives the Poage Bill was substituted for the Granger Bill, and then the Poage bill was amended to allow alternative methods of identification in restaurants and public eating places when served there. Vote on the amended bill was 287-89 for passage—a decisive majority.

The Senate will soon consider the legislation as submitted to it by the House. One group of Midwestern Senators, not yet fully cognizant of the stake which their farmers have in this legislation, is attempting to appease the butter lobby leadership by again introducing into the fight the proposal that the taxes be removed and the prohibition on yellow color be established. That proposal, merely window dressing for the folks back home who think there should be opposition, will fall flat and it is our prediction that a bill substantially the same as that reported out of the House will be passed shortly. The finance committee of the Senate a year ago reported out with recommendations of immediate passage a bill essentially the same as the Poage bill. It was caught in the log-jam at the end of the session and failed of passage.

As we reach the editorial deadline, reports reaching





OPPORTUNITY

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us from Washington indicate the finance committee of the Senate plans to take early action, and that hearings on H. R. 2023 will be held the week of April 11. It is expected they will be short, with a minimum of time allocated to both proponents and opponents of the bill, and that recommendation of early passage will accompany the report of the bill to the floor. Little opposition is expected within the membership of the finance committee, but considerable debate is expected when the bill reaches the floor, where the above-mentioned group of Midwestern Senators will make a determined effort to prevent passage. We predict their efforts will be unsuccessful, for a vast majority of the American people want *yellow* margarine sold tax-free, and the will of the majority must prevail in a democracy.

Final passage of a margarine repeal bill, with signature by the President, should result in a more favorable market for soybean oil. Certainly there will be no immediate upsurge, for in most cases margarine plants have been running to capacity and will be unable to produce increased quantities. Men in a position to judge have forecast that within a period of a few years the production of margarine will double once repeal is accomplished and new plant facilities become available. On that assumption, the market for soybean oil in the product should more than double.

It is our second most important market—it is the obligation of each member of the American Soybean Association to contact his Senators and ask them to wind up these years of controversy at an early date by voting "yes" on H.R. 2023. The House has done its part. The decision now rests with the members of the Senate. Will you let your Senator know where you stand today?

THE PUZZLE OF DECLINING OIL PRICES

One of the hard-to-understand factors in current markets is the steadily declining prices in fats and oils in the face of a continuing world shortage. Easiest explanation of failure of foreign countries to buy soybean oil, cottonseed oil, lard, and other fats is shortage of dollars. Lifting of restrictions on exports by congressional action when the general export control bill was renewed came at a time when all ECA allocations of funds had been made, when there was uncertainty of renewal of those funds, and when dollar exchange available to those countries from their own funds was at a low ebb and already allocated.

Even the most pessimistic expected some reaction to the lifting of export controls. If there was such reaction, it was too small to be apparent. We find ourselves with plentiful supplies of fats and oils, but no large surpluses, in a world where there are distinct shortages, and where world prices and demand are just not reflected in domestic markets.

Relaxation of controls came too late to be effective. Period of high usage of fats is the winter months. March relaxation means delivery to foreign countries not earlier than April. The heavy demand was over before the job was done. Perhaps as the new ECA funds become available, and as the Army makes its needs known for occupied areas, there will be renewed demand. When that demand materializes there will be a buying splurge, for domestic buyers have also stayed away in droves during recent weeks. Not until that time will there be material change in fats and oils prices.

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The name is "Little Asa", folks.

The little fellow with the hilum eye who first appeared on these pages in our 1948 convention issue, has already become a favorite with *Soybean Digest* readers. It was early realized in the Association offices that he would become a permanent fixture in our cartoons. Your editors decided that he should have the dignity of a name, so they called on the readers for help.

The response has been gratifying. Many have written in, suggesting names and expressing solicitude for the little character.

A wide variety of names were suggested. Many have been published in these columns, including some on the "Letters" page of this issue.

The name that became most popular and "stuck" around the office is "Little Asa." It happens that George McCulley, Association business manager, first suggested it. Later G. C. Wareham, Hiawatha, Kans., suggested "Asa." And "Asab" (American Soybean Association Booster) was suggested by Wm. G. Eichar, Walley Agricultural Service, Inc., Ft. Wayne, Ind.

Asa, of course, is the initials of the American Soybean Association. And Asa is little. Walter Flumerfelt of General Mills, Inc. suggests that he should grow as the Association's program grows.

Perhaps. Only time will tell what will happen to Little Asa and what fate is in store for him. In the meantime, he is making a brave start in life.

Missouri Meetings

Plans for a series of meetings to acquaint soybean producers with the program of the American Soybean Association to be held in southeastern Missouri, northeastern Arkansas and western Tennessee the week of April 17 were being completed as the *Soybean Digest* went to press.

Exact date and place of the meetings were not yet available but will be announced through local newspapers. The meetings will be similar in scope and purpose to the grower meetings held in three Ohio towns in February, when about 600 Ohio farmers took part.

Margarine Hearings

Margarine hearings before the finance committee of the U. S. Senate in Washington will probably open April 8.

Members of the American Soybean Association as well as individual soybean processors will appear at the hearings and present testimony in favor of the repeal bill.

29th Convention

The 29th annual convention of the American Soybean Association—and the first one in the state of Minnesota—will be held at Minneapolis and St. Paul on September 6, 7 and 8. Headquarters will be at the Hotel Nicollet in Minneapolis.

Program plans are still in the preliminary stage, but they call for the formal sessions at the hotel on the first two days, a field trip to University Farm at St. Paul on the third day. There will be special features for the ladies, a banquet, and perhaps one luncheon session with a national figure as speaker.

PUT A RED CIRCLE around the dates on your calendar NOW!! Plan to spend Labor Day week-end in the resort areas of Minnesota, coming in to Minneapolis for our convention starting on Tuesday morning. Details on resort and fishing facilities available will be carried in a later issue. Now is the time to reserve the dates . . . SEPTEMBER 6, 7 and 8. Make your plans now to be in Minneapolis!

SEPTEMBER

S	M	T	W	T	F	S
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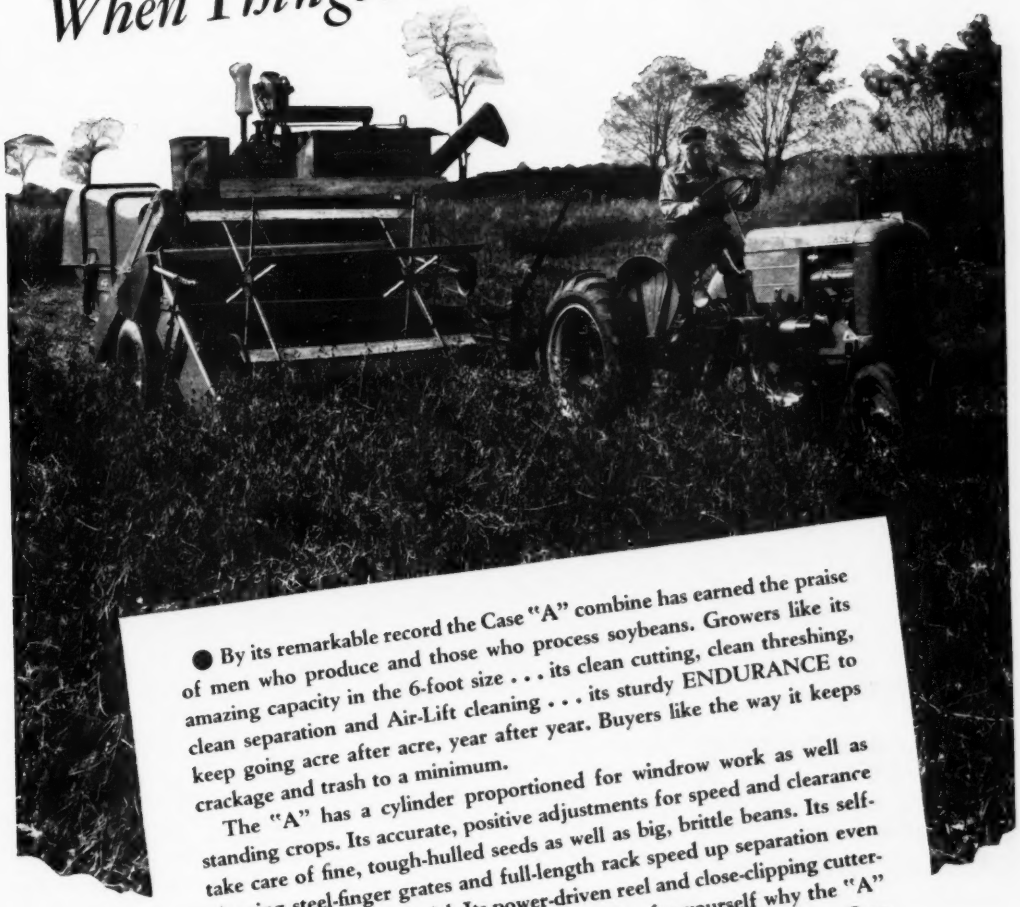
Tops for Soys . . .

When Things Are Good or Bad



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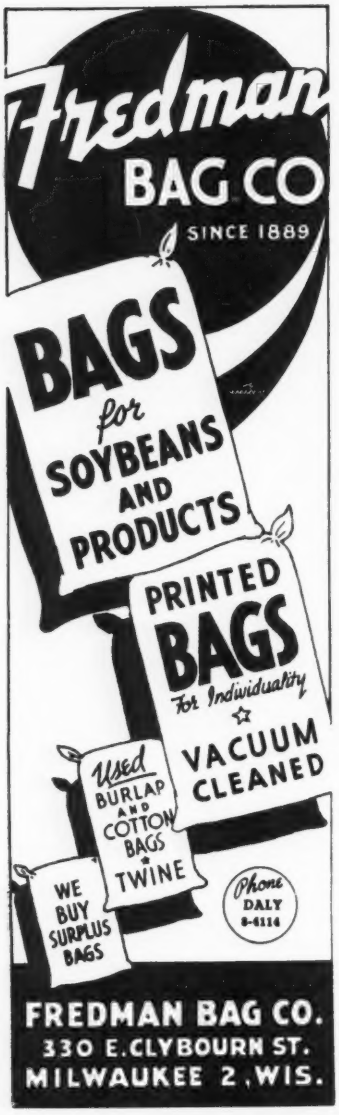

SOYBEANS AND FERTILIZER PROBLEM

Use fertilizers on the crop in the rotation where they will do the most good. Nine times out of ten this means some crop other than soybeans.

This is the general rule of thumb most soil experts apply to soybeans where they are grown on soils of average productivity. Soybeans respond well to a high fertility level, not so well to direct fertilization.

There are some exceptions to this rule:

1—Soybeans respond to fertilizers on potash-deficient soils and on soils of low fertility.

2.—Liming and manuring pay off for soybeans in building up the soil.

A. L. Lang, of the department of agronomy, University of Illinois, states the case well:

"The soybean follows the corn crop as effectively and in the same manner as the porker follows the steer in the feed lot. If the steers are well fed the hogs need very little attention. Likewise the soybean —if the corn crop is well fed the bean crop will need little or no fertilization".

"When sufficient limestone, phosphate and potash are applied to meet the maximum requirements of the legume forage crop in the rotation, grain crops like corn and soybeans will be amply cared for, providing enough of the forage crop is returned to the land in either green or animal manures."

Say Lang and L. B. Miller in the circular *What About Fertilizing Soybeans*: "The use of small amounts of fertilizers for soybeans at seeding time has failed to give satisfactory results except on potash-deficient soils.

"Heavy applications of fertilizers plowed down on moderately productive dark-colored soils have not given profitable returns."

GROWERS

Iowa, Minnesota

In Iowa and Minnesota the story is about the same. Says L. B. Nelson, research associate professor of the department of agronomy, Iowa State College, Ames:

"Apply commercial fertilizers only on soils very deficient in available phosphorus and potassium. Then broadcast before planting 200 pounds per acre of 0-20-0, or 0-20-10 fertilizer depending on the soil test.

"In addition, we recommend spraying of iron-deficient, chlorotic soybeans growing on high-lime soils in north central Iowa with 20 pounds of ferrous sulphate per acre.

"I realize that these are very limited recommendations—but we just haven't been able to pick up enough response with direct fertilization of the beans with potash or phosphate to justify a very optimistic recommendation. We have carried on extensive studies with nitrogen, phosphate, potash, iron, manganese, zinc, gypsum, dolomite, and a few other elements and haven't gotten very far except for iron."

"On the soils which are in a very low state of fertility an application of a fertilizer containing phosphate and potash has been effective," says C. O. Rost chief of the division of soils, University of Minnesota. "Our

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Hats are doffed to the American Soybean Association for their determination and effort to remove the discriminatory taxes on margarine.

The stand taken by the American Soybean Association on margarine legislation represents not only the feeling of the entire soybean industry but, most important of all, this stand represents the wish of the overwhelming majority of consumers throughout the nation.

You should be pleased with the job you have done. You should be pleased with the new friends you have won — the consumers of America. From coast to coast you have made millions of friends through your determined fight to eliminate unfair margarine legislation.

Up to now, justice, logic and public opinion have been on one side of this national controversy — your side. But — the majority vote has been on the other side. Now you are succeeding. You have succeeded in helping to remove discriminatory margarine legislation in state after state. We know you will continue to work for the removal of the unfair Federal Taxes on colored margarine.

We join millions of American consumers in taking our hats off to the American Soybean Association for a big job well done.

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fertilizer recommendations thus far have been that the best procedure for soybeans is to fertilize the crop which precedes them and then omit fertilizers the year the land is in soybeans."

Ohio Results

Results in Ohio with direct fertilization are about the same as those obtained in the states mentioned above. Ohio agronomists say the most profitable way to fertilize a soybean rotation is to increase the rates of fertilizer on the responsive crops such as corn, small grain and meadow, thereby leaving the soil in a high state of productivity for the soybean crop.

In continuous culture of soybeans or if soybeans are to be fertilized directly, 200 to 300 pounds per acre of 0-12-12 should be applied in a manner that avoids contact of the seed with the fertilizer. Two additional practices that usually give marked increases in soybean yields are liming acid soils and applying 6 to 8 tons of manure as a broadcast or plow-down application, say the Ohio agronomists.

Results With Nitrogen

Results from the application of nitrogen on the soybean crop have been negative on most Cornbelt soils. However, yield increases of 5 bushels per acre were obtained with row soybeans receiving nitrogen as a side-dress application at the time of bloom on Wooster silt loam in 1946, says Dr. C. E. Evans, associate agronomist in charge of research work in soybean fertility at the Ohio Station.

Such increases resulted when 120 pounds of nitrogen per acre were applied to a late-maturing, well-inoculated variety of beans. Similar applications as a broadcast, plow-down application before seeding gave little increase.

The use of nitrogen on soybeans is a new approach by the Ohio station. It has been assumed that well-inoculated soybeans would obtain enough nitrogen from the air for optimum yields. But this work is still in the experimental stage, Evans emphasizes.

Wisconsin Soils

In Wisconsin there is little evidence that direct fertilizer on soybeans is of great value except where potash is very short. On soils deficient in potassium high potash fertilizers do give marked results, says A. R. Albert, associate professor of soils at the University of Wisconsin.

On a 4-year rotation with soybeans on sandy soil, University agronomists recommend applying lime on the soybeans in the fall, then commercial fertilizers on corn and legumes.

Further South

On soils of low fertility further south direct results from fertilizers have been much greater. This is true on the prairie soils of Missouri, all except the Delta lands in Arkansas, and in North Carolina.

Fertilizer treatment is not recommended on highly productive soils in Arkansas, which includes much of the land in the Delta area, according to W. H. Garman, head of the department of agronomy, University of Arkansas. But on soils of medium productivity, 300 pounds of 20 percent superphosphate are recommended where potash is not too limited, and 400 pounds of 0-14-7 is the recommendation where potash is somewhat low.

On Arkansas soils of low productivity 300 pounds of 3-12-6 or 5-10-5 are usually recommended, says Mr. Garman.

For recommended fertilizer practices in Indiana, see article by A. H. Probst on pages 18-19 in this issue.—Editor.

INOCULATION

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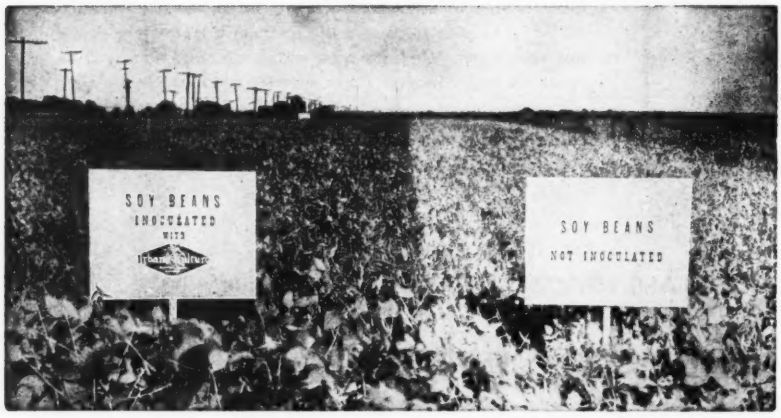

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North Carolina Results

Experiments conducted in soybean growers' fields in North Carolina the last several years show the importance of liming and fertilization in securing high yields. A yield of 40 bushels per acre of soybeans contains phosphorus and potash equivalent to that in 300 pounds of 0-10-20.

Fertilizer recommendations for North Carolina are as follows:

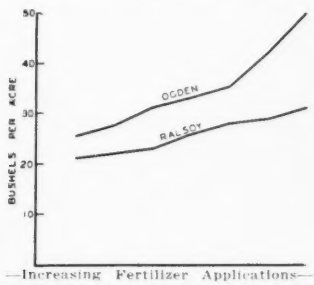
1. Apply dolomitic limestone in accordance with requirements as shown by soil tests. A pH of 5.7 to 6.0 is desirable.

2. Fertilize with 400 pounds per acre of 0-10-20 unless the soybeans are grown after a heavily fertilized crop. The fertilizer must be properly placed in order to prevent injury to the seed. The most desirable placement is 2½ inches to the side of the seed and 2 inches below.

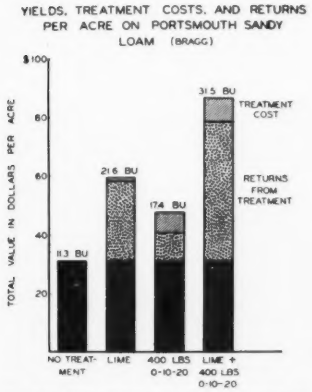
In order to demonstrate more clearly the importance of these practices in profitable soybean production several experiments were set up in the Coastal Plain in 1946. With no fertilizer or lime an average yield of only 22 bushels was obtained while with proper liming and fertilization an average yield of 34 bushels resulted. The bottom graph illustrates the response of soybeans to lime and fertilizer on a field of low productivity.

To realize the greatest benefit from improved varieties it is necessary that the fertility level of the soil be high (See below). The advantage of the Ogden variety over the Ralsoy was appreciably greater at the higher yield levels.

Farmers are beginning to fertilize soybeans in North Carolina. Several growers have reported yields over 40 bushels per acre and one grower combined 50 bushels per acre. The fertilizer grade 0-10-20 has not been generally available. The grade 0-12-12 has been more available and hence more widely used on soybeans.



Fertilization brings out real differences between the varieties, Ogden and Ralsoy, in North Carolina (28 comparisons 1943-47).



On this field giving a yield comparable to the 1935-45 state average lime and fertilizer nearly tripled the yield and greatly increased returns.

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All high potash fertilizers have been scarce, however. The past year the fertilizer industry cooperated with Dr. E. R. Collins and the North Carolina Agricultural Extension Service in a special effort to furnish adequate amounts of 0-10-20 in Currituck county. The results obtained in 1948 in this county give a good indication that the practice of fertilization of soybeans will continue to spread.—*W. L. Nelson and E. E. Hartwig, North Carolina Agricultural Experimental Station, Raleigh, N. C.*

In Ontario

A few of the earliest varieties of soybeans have been grown at Fort Williams, Ont., during the past 6 years, reports the District Experiment Substation at Fort Williams in *Progress Report* 1937-1947.

In only one year has the frost-free period been long enough to permit seed to mature, the Station reports. But part of each plot has been harvested for hay when the pods are about half filled and the plants beginning to mature.

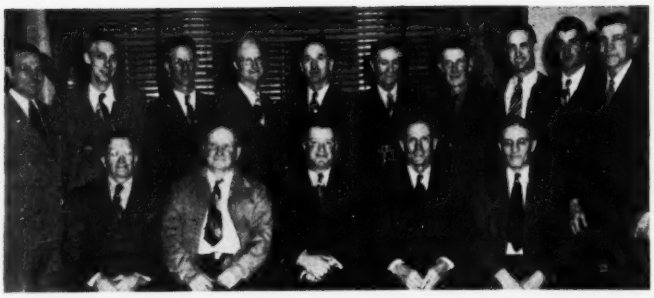
Over the 6-year period the Kabott variety turned out the best hay yield, 2.63 tons per acre. This compares with 2.29 tons for Manitoba Brown and 1.96 for Pagoda.

"It appears that soybeans cannot be recommended for this area," according to the report.

Emergency Pasture

If your legume pasture has winterkilled, a good emergency substitute is a mixture of sweet Sudan grass and soybeans.

W. B. Nevens and E. E. Ormiston, Illinois College of Agriculture dairymen, say it's widely used by many farmers with good results. You can seed 20 pounds of sweet Sudan and a bushel and a half of soybeans per acre. Best planting time is late May or early June—soon after corn.



Medal winners and others at the soybean dinner meeting sponsored by the Mexico, Mo., Rotary Club March 1. Seated left to right: J. R. Paradise, Frank Brakel, Ted Stansberry and James Shaw, medal winners; and A. F. Stephens, Gulf Mobile & Ohio Railroad. Standing, left to right: Maurice Maze and J. A. Loutch, Missouri Farmers Association; Ed. Conklin, Carver Brown, Lawrence Davis, E. M. Anderson and Clayton Brown, medal winners; County Agent John McClure; and Floyd Chrisman and Fred Doeblin, medal winners.

Hawkeyes in Illinois

Higher yielding, earlier maturing Hawkeye soybeans are expected to push other varieties almost out of the picture in Illinois in a few years.

Hawkeye looks as if it will replace Richland throughout Illinois soon, believes Dr. W. L. Burlison, head of agronomy work at the Illinois College of Agriculture. Because of its earliness and larger yields, Hawkeye will also probably take over much of the present acreage of Earlyana, Lincoln, Mukden, and Illini in northern Illinois.

"In fact," says Burlison, "if you want a variety earlier than Lincoln we'd recommend Hawkeye anywhere in Illinois. As for yields, Hawkeye has produced larger crops than 16 other varieties as far south as Champaign county."

Mexico, Mo., Dinner

The 1948 Audrain County, Mo., Soybean Achievement Program was brought to a climax with a Rotary Club dinner meeting at Mexico March 11, with honors to the 20 growers who won achievement awards.

The program was sponsored by the Missouri agricultural extension service cooperating with the Gulf, Mobile & Ohio Railroad.

Achievement awards were gold and silver medals made by the agricultural department of the railroad and awarded by A. F. Stephens, agricultural agent. Winners of the medals were guests of the M. F. A. soybean mill at Mexico.

Achievement award winners and their yields:

GOLD MEDALS

Name	Addresses	Bushels
Ted Stansberry	Forbes	35.3
Frank Brakel	Laddonia	35.0
J. R. Paradise	Mexico	34.0
James Shaw	Vandalia	33.5
Clyde Shoup	Laddonia	30.0

SILVER MEDALS

G. B. Kemma	Martinsburg	29.5
Lawrence Davis	Centralia	29.0
Carver Brown	Laddonia	29.0
Elmer Force	Mexico	27.0
Floyd Chrisman	Benton City	26.6
Clayton Brown	Mexico	26.0
C. E. Davis	Centralia	26.0
F. L. Doebelin	Rush Hill	25.5
Edgar Conklin	Benton City	25.4
E. M. Anderson	Centralia	25.0
W. J. Fennewald	Martinsburg	25.0

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OUTLOOK FOR FATS AND OILS

By GEORGE L. PRICHARD
Director, Fats and Oils Branch, Production and Marketing Administration, U. S. Department of Agriculture

Most of the European countries still maintain rationing of fats and oils, and per capita consumption of edible fats is still below prewar levels even though recently the ration has been increased in Germany and some other countries. World exportable surpluses of fats other than drying oils for the calendar year 1949 were last estimated by the International Emergency Food Council at about 3,500,000 metric tons.

We believe a fair estimate as of today would be that exportable surpluses for 1949 nearly equal the effective demand. Both exportable surpluses and effective demand are subject to changes because of changes in government policies and weather conditions.

Now let us look at the present situation in this country. Oilseed crops and animal fats from the 1948 crops gave us the second highest domestic production of fats on record—second only to 1943. Despite this large production, export allocations, for various reasons, were held at lower levels than were warranted by supplies available for export.

This situation was not corrected until prices had declined drastically. By that time, two things had happened: First, we had missed for a period of about 6 months the added consumption which might have taken place in Europe, had larger exports been made early in the crop year; and second, ECA countries, finding they could not get all the fats and oils they wanted from the U. S., had either purchased in other areas at high prices or diverted their funds to other available commodities. A surplus of fats and oils was built up in the United States and this surplus is still with us.

Consequently, prices to producers and for crude oils and fats have declined drastically. To date, however, we do not believe these declines have been fully reflected in prices to consumers.

It is my opinion that large stocks of fats and oils are not needed in the U. S. so long as adequate incentives to full production are provided through our support price operations. Barring indications of crop failures, I believe it would be to the advantage of our farmers if stocks are reduced as nearly as possible to last year's levels before new crops begin moving to market. Whether exports will move in the volume necessary to effect such a reduction is certainly debatable.

One result of removing export controls from fats and oils will be to give our farmers broader access to world markets for soybeans. You know, of course, that the European countries have a decided preference for soybeans. Supplies of soybeans are no longer available from Manchuria and no one knows when they will again be available. I hope this demand will continue for many years because it will help to maintain U. S. soybean production at a high level.

Under existing legislation, 1949-crop soybeans will be supported at a level between 60 and 90 percent of the comparable price as of September 1, 1949. No price support is mandatory for soybeans after 1949. The level of support for the 1949 crop should be announced within the next few days and it may have some effect on the acreage. Also, the declines in market prices for soybeans since March 1, the date on which BAE's survey of intentions to plant was made, may have some effect on 1949 plantings.

In considering the prospects for soybeans in 1950 and the future, there are several factors to be considered. There is the possibility of restricting the production of competing crops through acreage allotments or marketing quotas—corn in the Midwest and peanuts and cotton in the South.

Another factor is the European demand for soybeans which we believe will continue strong as long as European countries have dollars with which to purchase fats and oils. So long as our domestic economy continues at a relatively high level there should be a good demand for livestock, dairy and poultry products and this demand will be reflected in prices for protein feeds and consequently, in the market prices for soybeans.

There is one adverse factor which should be mentioned. That is the so-called chemical emulsifier or bread softener. These softeners are now being used to some extent in the baking industry. Incidentally, fats and oils are not the only farm commodities which would be affected by their use. Advertisements have stated that in one bakery mix 1 pound of the chemical compound, plus 5 pounds of water, will replace 6 pounds of shortening. In addition, it is alleged that eggs can be reduced from 15 to 4 pounds per mix and that in some cases milk may be entirely eliminated.

The baking industry's consumption amounts to about 40 percent of the lard and shortening production. It is estimated that if these softeners come into widespread use in the baking industry, 600 to 700 million pounds of shortening, lard, butter and oils would be eliminated from the baking industry's annual consumption of fat. This is equivalent to the production of soybeans from approximately 3,500,000 acres.

Hearings are now being conducted by the Pure Food and Drug Administration regarding the use of these emulsifiers. Indications are that it may be quite some time before a decision is made. No sizeable expansion is likely in the use of these chemicals until Pure Food and Drug has rendered a decision.

There is one other factor which might affect the domestic situation. During and since the war, imports of fats and oils have been controlled under War Food Order 63. Under present legislation, import controls will expire June 30, 1949. Should these controls be discontinued July 1, it will have a severe effect on our flaxseed program in view of large supplies of flaxseed and linseed oil available from other major producing areas. There is also the possibility of edible fats and oils being offered to the U. S. in large quantities to obtain dollar exchange.

● *From a talk before the annual soybean processors conference at Urbana, Ill., March 30.*

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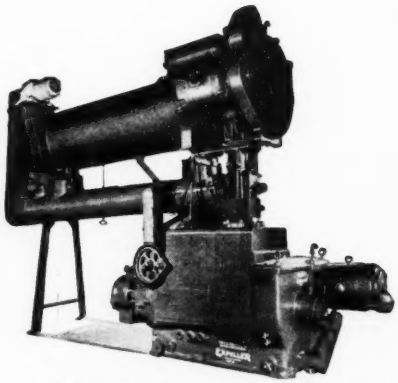

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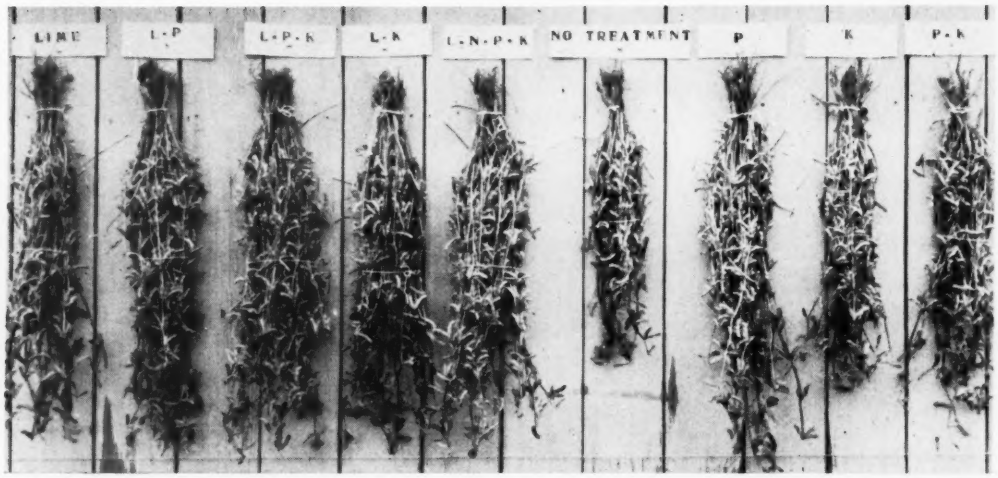

Four hundred pounds of 0-12-12 per acre plowed under plus 3 tons of 30 mesh lime increased yields from 16 bushels on untreated land to 28 bushels per acre. Lime alone produced 20 bushels per acre. Tests were on light colored soil at North Vernon, Ind. Each bundle contains the same number of plants. (U.S.D.A. Photo)

SOYBEAN FERTILIZATION IN INDIANA

By A. H. PROBST

Associate Agronomist, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, U. S. Department of Agriculture in cooperation with the Purdue Agricultural Experiment Station.

SOYBEANS LONG AGO passed out of the "model T stage" as a crop in Indiana and have become a major crop with about 1,400,000 acres harvested for grain with an average production of 21.5 bushels per acre in 1948. The new model varieties—Lincoln, Hawkeye, and others on the way, are adding materially to our state's wealth through higher yields, higher oil content, and through other characteristics which make for easier and quicker combining, and better suitability in rotations where wheat follows soybeans.

If you are to get the most out of your soybean crop and maintain your soil for high production you must not forget the fertility end. Inoculated soybeans supply most of their own nitrogen but they require considerable phosphate and high amounts of potash for high production.

Respond to Soil Treatment

Good farming practices including liming acid soil, leaving crop residues on the land in grain systems of farming, returning manure in general farming systems, and applying adequate amounts of nitrogen, phosphate and potash in the rotation reflect in higher soybean yields. This is proved by numerous experiments carried on in Indiana.

The response to good soil management practices is not generally as great in the case of soybeans as it is for other grain crops grown in the rotation. In an experiment at Lafayette where the yield level was 54 bushels of corn, 26 bushels of soybeans, 14 bushels of wheat, and 2.45 tons of hay per acre on untreated land, yield increases due to good soil treatment practices amounted to 69 percent for corn, 17 percent for soybeans, 142 percent for wheat, and 30 percent for hay. Soybeans gave the least increase which is frequently the case, especially where yields are already fairly high. But this was still a very profitable increase.

Recommendations

Unless unusually high fertility levels have been maintained, soybeans will usually respond to direct

Yields were increased from 19 bushels on limed but unfertilized soil in the foreground to 27 bushels per acre by plowing under 400 pounds per acre of 0-12-12 on light colored soil at Wheatland, Ind. (U.S.D.A. Photo)

The light streaks in the rows are due to manganese deficiency. A spray application of manganese sulphate corrected this deficiency and increased the yield 5 bushels per acre on the Elburt Place Farm near Walkerton, Indiana. (U.S.D.A. Photo)

Soybeans showing marked symptoms of manganese deficiency. Either soil or spray treatment with manganese sulphate would have corrected this deficiency. (U.S.D.A. Photo)

fertilization in the row or to fertilizer plowed under.

The table below indicates the recommended fertilizer to be used on various soil types having different available plant food levels. Usually an increase of 1½ to 3 bushels per acre may be expected with the use of 100 to 150 pounds per acre of the recommended fertilizer applied in the row on soils of average productivity. Tests have shown little or no advantage of using larger applications in the row under average soil productivity conditions. Some tests have shown the amounts of fertilizer to be less beneficial in beans drilled solid in 7-inch rows than when planted in wide rows for cultivation. Soybean seedlings are sensitive to direct applications of fertilizer and it is important that fertilizers be applied in bands on each side of the seed at least an inch from the seed.

On potash deficient soils, especially where the plants show deficiency symptoms, and on soils of low productivity 300 to 400 pounds per acre of the recommended fertilizer should be plowed under either by placing the fertilizer in the plow sole or broadcasting it on the surface and then plowing it under. On such soils yields have been consistently increased and soybean production has become profitable. Yield increases of 5 to 8 bushels per acre or greater have been rather frequent in many tests.

Yield increases of 6 to 10 bushels per acre are rather common on much of the light colored, "gray flats", soil of southeastern Indiana with an application of 400 pounds per acre of 0-12-12 fertilizer plowed under on properly limed land.

At Wheatland and at Lafayette on well limed light colored potash deficient soils, yields have averaged 8 bushels per acre higher over a 4-year period with the application of 400 pounds per acre of 0-12-12 plowed under compared to unfertilized land. An additional 400 pounds of 0-12-12 increased the yields only an additional 2.5 bushels per acre on these soils.

On productive dark colored soil at Lafayette the 4-year average yield increase was only 2.5 bushels per acre for the addition of 400 pounds per acre of 0-12-12 plowed under and 5.0 bushels for the addition of 800 pounds per acre of 0-12-12.

Maturity is invariably hastened, sometimes by as much as 2 or 3 weeks and seed quality is improved, on potash deficient soils when adequate amounts of fertilizer are added.

RECOMMENDED FERTILIZERS TO USE FOR SOYBEANS ON VARIOUS INDIANA SOILS UNDER DIFFERENT AVAILABLE PLANT FOOD LEVELS[1]

Soil or plant tissue tests available		Soil Types					
Phosphate	Potash	Well drained light colored medium to heavy soils	Dark colored medium to heavy soils	Poorly drained gray soils "gray flats"	Light colored sandy soils	Black sandy soils	Mucks
Low	Low	0-12-12	0-12-12	0-12-12	0-12-12	0-10-20	0-10-20
High	Low	0-10-20 or 0-9-18	0-10-20	0-9-18 or 0-10-20	0-10-20	0-9-27	0-9-27
Low	High	0-20-10 or 0-18-9	0-20-10	0-18-9 or 0-20-10	0-20-10		

[1]Data from Purdue University Agronomy Mimeograph AY 115.

Fertilizing With Nitrogren

Well inoculated soybeans on limed soil usually do not respond to ni-

trogen applied with the phosphate and potash fertilizer. Application of nitrogen as a side-dressing to well nodulated soybeans during the growing season after they have started to bloom has had little beneficial effect in increasing yields and has usually depressed the oil content slightly.

Superphosphate and Rock Phosphate

Tests conducted in several areas of Indiana the past 4 years in which superphosphate and rock phosphate were compared in amounts equivalent in dollar value have given an average increase of 2 bushels per acre for the superphosphate over the rock phosphate.

Manganese Deficiency

In the Kankakee River Valley area of northwestern Indiana, in an area centering around Wells and Adams counties in northeastern Indiana, and in some small areas in other parts of the state soybeans have frequently and more extensively been found to be deficient in manganese. Manganese deficiency occurs usually when the soil is either naturally sweet or has been limed to pH 6.5 or higher and is frequently found in the depressions or along roads where an abundance of lime dust has drifted into the fields. Manganese deficiency is characterized by a yellowing of the leaves with the veins remaining dark green. With severe deficiency the leaves may become almost white and eventually drop from the plant.

Manganese deficiency may be readily remedied by applying 25 pounds of commercial manganese sulphate per acre in the row mixed with the recommended fertilizer, or if manganese deficiency appears after the beans emerge, it may be corrected within a few days by spraying the surface of the plants with 10 pounds per acre of spray grade manganese sulphate (65 percent) mixed in 50 to 75 gallons of water.

Yield increases on manganese deficient soils either by soil or spray treatment with manganese sulphate have been rather phenomenal. In some cases the yields have been doubled and increases of from 4 to 12 bushels per acre are rather common.

Efficient soybean production is dependent on the use of the best varieties, the best cultural practices, and a high soil productivity level.

IOWA, MINNESOTA, MISSOURI PR

Discussion by I. J. Johnson, head of the farm crops subsection, Iowa Agricultural Experiment Station, who presided at the processor sessions; R. G. Houghtlin, president of the National Soybean Processors Association, Chicago; and C. R. Weber, U. S. Regional Soybean Laboratory, Ames.

A large number of Iowa, Missouri and Minnesota processors attended the first annual Tri-State Soybean Processors Meeting at Ames, Iowa, March 17.

Processors and agronomists from the three state experiment stations attended a dinner meeting at the Sheldon-Munn hotel the preceding evening.

I. J. Johnson, head of the farm crops subsection of the Iowa Station presided. H. E. Marxhausen of Cargill, Inc., Fort Dodge, Iowa, and president of the Iowa Soybean Processors, was in charge of arrangements.

The three-state meeting is a new departure and an outgrowth of the Iowa meeting of processors and agronomists that has been held annually.

The group plans to hold a meeting in 1950 at either the Minnesota or the Missouri experiment station.

"The main problem of the soybean processor has always been concerned with obtaining adequate supplies of soybeans to insure operation at capacity," said R. G. Houghtlin, president of the National Soybean Processors Association, Chicago, in outlining the processor viewpoint to the experiment station men.

"The supply will be determined to a large extent by the price which can be paid by the processor for soybeans," said Houghtlin. "One factor should not be overlooked and that is that the grower is the best customer of the processor as well as the supplier of the raw material for processing. Approximately 80 percent of the finished product is in the form of meal and the price which meal attains is, naturally, a very important factor in determining the price which the processor can pay for soybeans.

"Briefly, some of the other problems of the processor are proper hedging of his operations, continuous research to improve the quality of his products, and the continual necessity for developing new markets for his products and expanding the established markets.

"Hedging is a very difficult matter for the soybean processor. Sales of meal and oil for distant month delivery are hard to make and the products, where sales are made, are heavily discounted as compared with immediate shipment markets. The established futures markets are helpful but it is extremely difficult to obtain adequate hedging when the majority of the crop moves in a very short period of time and the production of soybean products is spread over the entire year.

CESSORS MEET

Attentive listeners at the Iowa, Minnesota, Missouri processor conference were Harry R. Schultz, Pillsbury Mills, Inc., Clinton, Iowa (left), and W. A. Hemphill, Hemphill Soy Products Co., Hemphill, Mo.

"Farm storage of soybeans should be helpful in this matter, and past records will indicate that growers have received higher prices where farm storage was used. This year, at least to date, is an exception, but we must not overlook the fact that if storage had not been practiced soybean prices may have deteriorated even further. Orderly marketing of the product should obtain the maximum return for the grower over a period of years.

"In discussing the present price of soybeans, it should be pointed out that both present meal and oil prices are well below the old OPA ceilings. Oil is some 3½ cents per pound lower than the last OPA ceiling and 1¾ cents per pound lower than the first OPA ceiling established. Meal is also well under the last OPA ceiling of $59 per ton bulk f.o.b. Decatur. Most processors are having difficulty today breaking even on their processing operation with these present price relationships.

Breeding Problem

How far can or should agronomists go in breeding for high-oil-content varieties? This question was raised by C. R. Weber of the U. S. Regional Soybean Laboratory and the farm crops subsection at Ames.

"Perhaps the oil is the most intrinsically valuable product," said Weber. "But we should never forget the protein.

"A number of studies have shown that as oil goes up protein comes down. As oil goes up .4 percent protein comes down 1 percent. Theoretically, raising oil to 25 percent might lower protein to 30 percent.

"But our total of oil and protein combined usually adds up to about 61 or 62 percent which would mean a protein content of 36 percent. Can the processors produce their 41-percent protein meal with 36-percent protein soybeans or even 32 to 34 percent? What changes come about in the nutritive quality of protein during this process?"

Weber said he saw little possibility of correcting flavor reversion in soybean oil through the breeding program. "There appears to be little chance of breeding for quality of oil within our present commercial varieties," he said. He suggested that it might take from 20 to 30 years to make substantial progress along this route.

If the relationship between soybeans and corn were entirely one of competition probably not many soybeans would be grown, said Earl O. Heady of the agricultural economics department at Ames.

Heady pointed out that though soybeans compete with corn for land and partially compete for labor, the crop can often be handled with the same labor and machinery that is used for corn. By cutting down on corn acreage and planting more soybeans many farms can conserve labor and machinery, he said.

Much soybean seed is showing poor germination in tests at the Minnesota Seed Laboratory this season, said M. F. Kernkamp of the department of plant pathology at the University of Minnesota. This low germination is due to mechanical injury during harvesting of low-moisture content seed last fall, according to Kernkamp. Much of the injury is too small to be seen with the naked eye, yet it results in poor germination, he said.

Kernkamp recommended that germination tests be run on all seed before planting this year, preferably in soil; and that rate-of-planting be increased to compensate for low germination.

He also suggested seed treatment on lots of seed that have been injured in combining. Such treatment will fight microorganisms and prevent them from entering cracked seedcoats. It has given amazing results on some seed lots, he said.

A new cheese similar in flavor to roquefort is being developed at Iowa State College, said John C. Ayres, bacteriologist. "Foods eaten by Oriental people are not liked by us. They are used to the 'horticultural cow,' the soybean, and make it do very well. Now we are interested in developing foods from the soybean that western people will like."

Others on the program included Dean H. H. Kildee who welcomed the processors to the college.

C. M. Woodruff, soils department, Missouri Agricultural Experiment Station, with "Soil Fertility and Rotation Studies."

J. W. Lambert, department of agronomy, Minnesota Agricultural Experiment Station, "Varietal Improvement and Cultural Practices."

C. V. Feaster, U. S. Regional Soybean Laboratory, Columbia, "Cultural practices Affecting Oil and Protein Content."

E. L. Barger, agricultural engineering department, Iowa State College, "Problems in Harvesting and Storage."

L. K. Arnold, department of chemical engineering, Iowa State College, "Recent Developments in Trichloroethylene Extraction."

Visiting after the noon luncheon at the three-state processor meeting at Ames, Iowa, March 17 are, left to right: R. B. Williams, Buckeye Cotton Oil Co., Louisville, Ky.; J. W. Calland, managing director National Soybean Crop Improvement Council, Decatur, Ind.; J. W. Lambert, Minnesota Experiment Station, St. Paul; and Ray Murray, Iowa Soya Co., Redfield, Iowa.

A field of Dortchsoy 31 soybeans 4 weeks after maturity. Yield was 38.5 bushels per acre, cut December 4. You see Carolyn Barber, daughter of the Dortch Farms office manager.

Dortchsoy 31

A New Soybean for the Midsouth

By DR. L. M. HUMPHREY

Robert L. Dortch Seed Farms
Scott, Arkansas

IN RECENT YEARS the Midsouth has assumed an increasingly important role in the U. S. soybean production picture. A serious dirth of adapted varieties quickly became evident. The varieties grown in this region were all low in yielding ability and lacked shatter resistance which made them unprofitable from a cash standpoint.

With the appearance of the Arksoy and Ralsoy and shortly thereafter the Ogden, the variety situation improved. However, the Arksoy-Ralsoy type beans still lacked somewhat in yielding ability, and the Ogden while a good yielder is seriously lacking in shatter resistance.

This was the situation that presented itself when we made our start in soybean breeding. Since then through careful selection from all available varieties, and through hybridization of different types, we have built up a very extensive breeding program. This has already given the soybean growers two outstanding varieties, Dortchsoy 7 and Dortchsoy 2. The No. 7, a yellow bean of the Ralsoy type, is superior in being very highly shatter resistant. The No. 2, a green bean of the Ogden type, is superior to Ogden in yield and shows some improvement in resistance to shatter, though I do not class it as a shatter resistant variety. Both of these varieties are of medium maturity, 140-145 days at the latitude of Little Rock when planted the last half of May.

From some 400 selections from the Ogden variety one was distinctly different from all the others. The first difference I noted was a definitely lighter color in the foliage, though other foliage characteristics were not changed. At the normal maturity time this line still had its foliage and maturity was not reached for 20 days after normal Ogden maturity.

This was difference enough to make this line interesting, but it soon became evident that this one line was also different from all the other Ogden lines in being highly resistant to shattering. Thirty days after maturity this line showed less than 1 percent of shattered pods and Ogden was more than 40 percent shattered. Aside from these differences the plants had the same general appearance and good standability as Ogden. Examination of the mature beans showed a typical green color and size, but a light brown, rather than a green eye.

From 400 Selections

In the new strains test the next year this line was outstanding for yield and once again both in the test and in the nursery showed the same characteristics as it had the previous year including a high degree of drought resistance. This bean was then designated Dortchsoy No. 31 and increase was started. The variety has now been included in the

(Continued on page 31)

YIELD AND SHATTER DATA ON DORTCHSOY 31, DORTCHSOY 2, DORTCHSOY 7, OGDEN AND ROANOKE FOR 1946-47-48

	YIELD DATA Bushels per Acre				SHATTERING DATA 15 days after Maturity				30 days after Maturity			
Variety	1946	1947	1948	Average	1946	1947	1948	Average	1946	1947	1948	Average
Dortchsoy 31	52.0	48.3	45.6	48.6	None	None	None	None	Trace	3%	1%	1%
Dortchsoy 2	52.1	46.4	45.2	47.9	3%	5%	5%	6%	7%	20%	20%	16%
Dortchsoy 7	41.3	34.4	32.6	36.1	None	Trace	None	None	None	5%	1%	2%
Ogden	44.2	35.2	40.4	39.9	25%	20%	20%	22%	50%	40%	40%	43%
Roanoke	42.4	38.2	39.1	39.9	2%	2%	3%	2%	5%	5%	10%	7%

ORIENTAL USES OF SOYBEANS AS FOOD

Hydraulic presses in the mill of the China Vegetable Oil Co., Shanghai, China. (June 1948).

With Attention to Fermented Products. Notes on Oriental Farming Practices. III. Chinese Institutions.

By ALLAN K. SMITH

Northern Regional Research Laboratory[1], Peoria, Ill.

Henry Lester Institute

A VISIT WAS made to Dr. Bernard E. Read, head of Henry Lester Institute, 1320 Peking Road, West Shanghai. Dr. Read has carried on many years of study on the foods used by the Chinese people. Because of the present financial situation of his Institute he is able to operate only on limited scale and has rented much of his space to other agencies.

Dr. Read furnished me with an interesting and valuable bulletin he had published recently, a translation in part from the 15th century "Famine Herbal" first written by Chou Ting-Wang and known in Chinese as Chiu-Huang Pen-ts'ao, a treatise on plants fit for food in time of famine.

Chou lived at Kaifengfu, Honan province, from 1382 to about 1400 and then moved to Yunnan, where he died in 1425. The original edition consisted of two volumes but a later edition of four volumes was compiled by his son, Chou Hsien-Wang, which appeared in 1559. This latter edition is now current.

The "Famine Herbal" is an original compilation based for the most part on Chou's own experience in Kaifeng south of the Yellow River and the Mi Hsien and Hui Hsien areas north of the river. The "Herbal" describes 414 plants; 138 of them had been recorded in earlier works on *materia medica*. Dr. Read's treatise includes the Chinese names of the plants, their botanical identity with authority, the English name with reference to botanical description, the chemical analysis when known, notes on food uses of the plants, and other general information. The translation of the "Famine Herbal" into English required an uncommon knowledge of the Chinese written language, which Dr. Read has acquired during his many years of work in China.

Dr. Read also gave me a copy of his bulletin on Shanghai Foods, fourth edition. This book contains considerable information on composition, nutritional value, and preparation of food in the Shanghai area.

In regard to his work on soybean milk, Dr. Read stated that the addition of a small amount of egg yolk to the milk greatly improved its flavor and nutritional value.

Dr. Read is presently working on the preparation of vitamin C from the haw berry.

Academia Sinica

The Academia Sinica is a national organization for the promotion and coordination of research in all

[1]One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture.

A wedge press for oilseed operations, at Canton, China. Preformed disks of the falked or ground meal are inserted in the slot, turned crosswise in the hollow log and pressure applied with wooden wedges. (July 1948).

branches of organized science and to supervise the operation of other government-supported research institutes. The headquarters are located at Nanking; however, the section visited was at Yo Yang Road, Shanghai. The Academia Sinica at Shanghai has a building which compares favorably in size with the Northern Regional Research Laboratory. It was established with the Boxer Indemnity fund returned by Japan. The Shanghai branch serves as a temporary site for the Institutes of physics, chemistry, zoology, botany, psychology, mathematics, medicine, and engineering. As the scientific research program of China develops, the Shanghai Laboratory expects to concentrate more on medical research than on other branches of science.

The head of the Institute's work on plant genetics and plant breeding, Chung Ying Li, was interviewed. He said that they were doing no breeding work on soybeans at present. The area in which he is interested grows more wheat and rice than soybeans. The soybeans in his area are used largely as a border crop for cereal grains and a large percentage of them are picked green for immediate table use; therefore, the ultimate yield is not regarded as a deciding factor in their cropping system.

Mr. Li is very much interested in wheat breeding experiments. He is studying the cross breeding of wheat as it affects the length and compactness of the head. He has a theory that an oxidizing agent in the plant, which is regulated by certain genes, affects the amount of auxin and, in turn, controls the formation of the head of wheat. He is trying to prove his theory.

China Vegetable Oil Corp. (CVOC)

The China Vegetable Oil Corp. is the largest and most progressive oil processing company in China. Its eminence is probably due to the direct support it receives from the Chinese National Government. Branch offices are maintained in Tientsin, Nanking, Hangchow, Canton, and other cities of China. All officers of the corporation were very generous in assisting me in locating small shops engaged in processing soybean food products and in furnishing interpreters and transportation on many occasions. I wish to mention especially the assistance given by C. C. Chang, president and general manager; A. K. Hoo, vice-president; Mr. Tao, and Mr. Yeh.

The CVOC has two oil mill plants in Shanghai; only one was in operation at the time of my visit. This plant has 16 screw presses, about half of them of an old-fashioned German type, the other being Anderson Expellers. The German type had a capacity of only about 10 tons per day, and all of them were so badly worn that they were very inefficient as indicated by the percent of oil remaining in the cake.

They had two sets (24 each) of hydraulic presses, with one set in operation.

The soybean cake as it comes from the hydraulic presses is a flat disc about 5 inches thick and 24 inches in diameter. A crew of about 15 men is required to operate one set of 24 presses.

In operating the hydraulic presses, the beans are first converted to coarse flake, then treated with live steam. The steam treatment is carried out by placing an amount of flakes sufficient for a single cake on a gunny sack material stretched over a live steam exhaust. Two loose bundles of straw which are used

Loading soybean hydraulic pressed cake, on the Bund, Shanghai, China. (July 1948).

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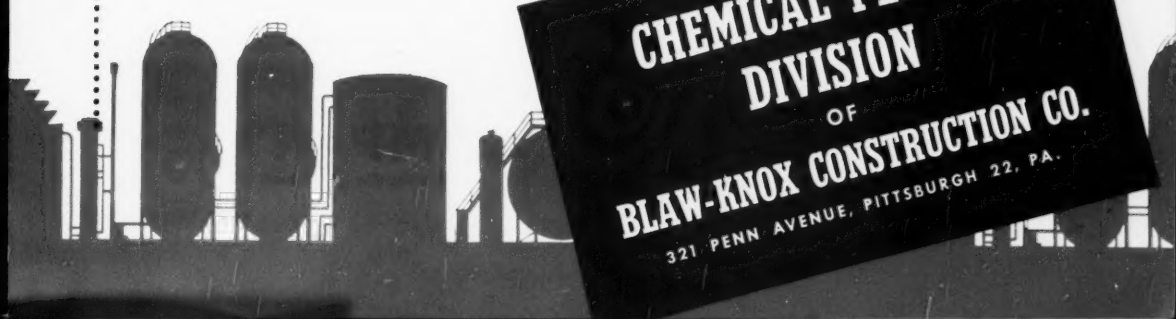

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later to hold the flakes in the preform mold are laid loosely over the flakes during the approximate 1½ minutes of steaming. The straw is then placed inside two steel rings in which the cake is to be preformed, the flakes added, a cloth pad placed over the hot damp flakes and tamped vigorously with the feet. The pad is removed, the ends of the straw folded over the top of the flakes and the loosely formed cake placed in a low pressure mold which further presses the flakes into a cake which holds together while being transferred to the hydraulic press. The cake is held in the press about 30-45 minutes.

When the cake is removed from the press, the edge of the cake, which contains considerable oil and some adhering straw, is shaved with a draw knife and the shavings returned to the press. The soybean cake is very hard, but farmers prefer to purchase their soybean meal in this form, as it assures them that it is unadulterated.

The mills operate two shifts per 24 hours. Each shift works 7 days one week and 6 days the next. Their holiday once every 2 weeks is called Big Sunday.

During the filling of the presses, the men work very rapidly but they have a rest period during the time the presses are operating. The few clothes the men wear consist of a burlap cloth around the knees for protection and a short burlap skirt or loin cloth.

The oil for domestic consumption in China is unrefined. Following the pressing it is heat treated in large tanks containing steam coils and then filtered. This raw, dark-colored oil is retailed in small shops for home use. When the oil is prepared for export it is neutralized, centrifuged, water washed, and centrifuged again. The CVOC plant at Shanghai was the only oil plant visited that had a refining process.

The CVOC also processes vegetable tallow, rapeseed, cottonseed, sesame, peanuts, tea seed and other oilseeds.

The tallow tree *(Stillingia sebifera)* produces a nut about ½ inch in diameter which bursts open when ripe, exposing three seeds. The seeds consist of an oily, proteinaceous kernel, enclosed in a hard, black shell thickly covered with a layer of firm, white fatty substance which consists of vegetable tallow, about 20 to 30 percent by weight. After removal of the tallow, the seeds are cracked and pressed to obtain the oil, which is known as Stillingia oil.

The tallow is used for candles, lubricants, soap, hair pomade, and treatment of sores and skin diseases. Stillingia oil has an iodine number of 180-187 and is used as a drying oil. The bark of the tree is used in medicine.

The tallow tree is native to central and eastern China, especially in the provinces of Chekiang, Kiangsi, and Hupeh. It has aspen-like leaves which turn to a brilliant red in autumn and winter.

Rapeseed oil, when the supply of materials is low, is processed by passing it through the screw presses twice. Most of these oils, especially for export, are shipped in used steel drums. Used drums, rather than new ones, are preferred in order to avoid the tax imposed when new ones are purchased.

The CVOC has plans for the purchase and operation of a solvent extraction plant of about 150 tons' capacity. The corporation is waiting for a more suitable money exchange

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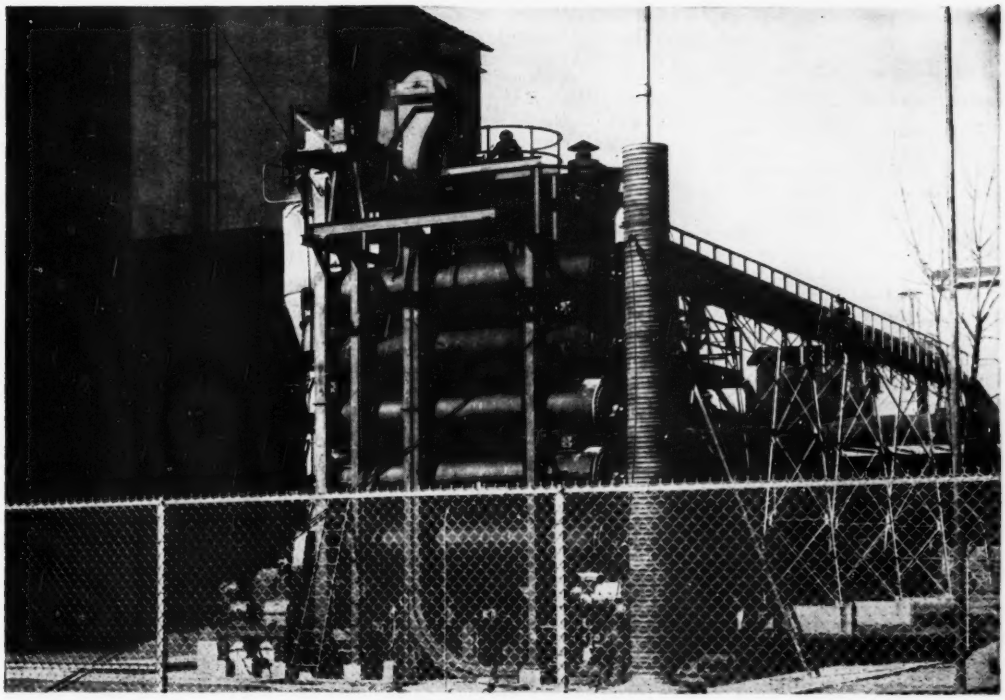

And still another

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To the rapidly growing list of Anderson Solvent Extraction Unit installations we now add an 80-ton unit for the Delphos Grain and Soya Products Company at Delphos, Ohio. This installation completely replaces another milling process.

Soybean processors, large and small, are more and more coming to appreciate the outstanding advantages of Anderson Solvent Extraction Units. They like the prefabricated, out-in-the-open unit with one-man control, and the insurance and building construction savings, as well as the safety factors. The ease with which Anderson Solvent Extraction Units can be added to existing facilities and can be dismantled and moved to a new location if needed, appeals to farsighted processors.

There are a number of other installations now in the process of erection which will be shown to you in the next few months. In the meantime, we believe it will be to your best interests to write and let us give you factual information on Anderson Solvent Extraction Units. A letter on your letterhead will bring prompt attention.

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rate before purchasing the equipment.

China Oils and Fat Industries Ltd.

This company is in the process of installing, under the supervision of H. P. Fan, 50 Hankow Road, two screw presses at Shanghai. Mr. Fan is also consulting engineer for Shingku Trading Co., Ltd., Shanghai. This latter company is in the process of purchasing and installing batch-type solvent extraction equipment for oilseeds.

The extraction equipment is from the Societe Anonyme Edoward Batille of Paris. The plant will be erected in Szechuan province about 1,000 miles west of Shanghai. They expect to use hexane as a solvent.

National Bureau of Industrial Research

This organization occupies two buildings for chemical research, one at 352 Cheng-Ning Road and the other at 1317 Szechuan Road, North. They have another set of buildings which are used as a pilot plant for soy sauce production, and a fourth building for mechanical and engineering research. The headquarters for their laboratories are in Nanking, P.O. Box 108. Dr. Yu-Tsuan Ku is the director. They have a northern branch at Peiping, a northwest branch at Lanchow, a southeast branch at Chunking and another branch on Formosa.

These laboratories are concerned with any type of chemical work ranging from the setting up of control analysis for industrial companies to the development of new products and processes. They have divisions to cover the following subjects: fermentation, analytical chemistry, oils and fats, textiles, pure chemistry, ceramics, leather, plastics, sugar, cellulose, electrical and mechanical and other subjects. Examples of some of the projects follow:

1. Selection of proper clay and development of a process for making alum. At present there appears to be no alum production in China.

2. Study of pottery clay and development of methods for making pottery.

3. Extraction of vegetable tanning materials and a study of the tanning process.

4. Analysis of the various minerals of China.

5. Analysis of water and its variation with the seasons.

6. Plywood glues and plywood manufacture.

7. Study of plastics, synthetic and natural.

8. Isolation of the effective organisms for preparation of soy sauce.

9. Laboratory and pilot-plant studies on making soy sauce, especially on these factors responsible for the flavor and aroma of the sauce.

Some problems on the production of soy sauce in which they are particularly interested are:

1. How to improve the flavor of soy sauce manufactured by the quick process.

(a) During fermentation — the effect of irradiation with ultra-violet light; the addition of catalysts to promote hydrolysis; selection of more effective organisms and better conditions for their activity.

(b) The addition of synthetic flavor to the sterilized sauce.

2. What are the effects of the sun's rays on the enzymes and molds during fermentation.

3. How water instead of brine can be used during the fermentation.

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* *

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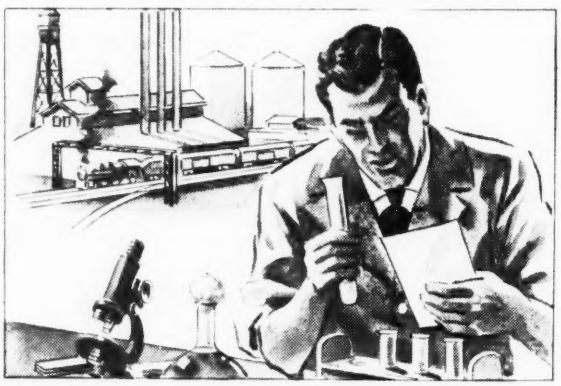

Laboratories: Little Rock (Ark.) Blytheville (Ark.) Cairo (Ill.)

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4. How soy sauce can be preserved during the summer.

5. How fish meal can be used in sauce manufacture.

Catholic University (Fu Jen)

Catholic University at Peiping receives about 60 percent of its support from the people of the United States; however, all students are required to make some small payment toward their tuition and supplies. The University has many fine buildings and a fair amount of equipment and supplies. About 2,500 students are enrolled at Fu Jen. In addition, the University trains priests for missionary work in other parts of China. Peiping is recognized as the most important educational center of China, and the language spoken in the Peiping area is given recognition as the most desirable of the many Chinese dialects.

The University is reasonably self-contained in that it has a Diesel engine for generating its own electricity when the city system fails (which is quite often), a "home-made" water-gas generating plant using a special kind of coal found near Peiping, a machine shop, a metal-working shop and a printing shop with three linotype machines.

Catholic University is currently organizing an agricultural department under the direction of Rev. George B. Mathews. The chemistry department under Professor W. Brull is well organized and has a large enrollment. Frank Liebenthal, a displaced person from Germany, was quite active in the fermentation division. He furnished a group of seven samples of microorganisms for transfer to the Northern Regional Research Laboratory and also assisted in locating industrial fermentation processes and acted in part as an interpreter.

Yen Ching University, Peiping

Yen Ching is a Christian university with one of the highest scholastic ratings in China. Dr. Leighton Stewart was president of this University for many years and now is Ambassador to China.

Dr. William H. Adolph, who followed Dr. Stewart as acting president of the University, plans, at the close of the 1947-48 school year, to transfer to the Pekin Union Medical School so that he can continue his work on nutrition.

Dr. Adolph is one of the foremost authorities on nutrition in China. In discussing the use of soybeans in China, he stated that the Chinese people do not use the whole soybean to any great extent as food. Many of the Chinese people find the whole bean difficult to digest and it is probably for this reason that fermented soybeans or the various forms of soybean curd are the preferred products. Additional information on the peasants' diet, obtained from Dr. Adolph, was reported in the section on farming conditions.

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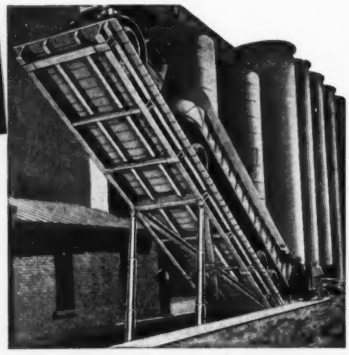

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Agricultural Experiment Station, Peiping

This Station which is a part of the National Agriculture Bureau with Dr. Song-en Tai as director, Dr. C. F. Loh, biochemist, and Dr. K. T. Chen (former visitor of the Northern Regional Laboratory), was visited.

The Peiping Agriculture Station was built in 1938 by the Japanese during their occupation of China. It consists of 15 buildings of brick and stone construction, 400 acres of land, and a staff of 272 persons.

It is now operated by the Chinese and the work is grouped into 8 divisions: (1) wheat, (2) cotton, (3) horticulture, (4) soils and fertilizer, (5) plant pathology, (6) agricultural engineering, (7) entomology and (8) miscellaneous. It also has four branch stations and two seed farms, although some of these stations are now in the hands of the Communists. This Station's present program includes breeding work on wheat, millet, kaoliang, corn, soybeans, cotton, hemp, and tobacco. New varieties of these crops are being sought that will be resistant to disease, drought and cold, and with a tolerance to a soil having a high salt content. The program also includes work on fruits such as pears, apples, grapes, and peaches, and on sugar beets, white and sweet-potatoes, and common leafy vegetables. Large areas of land in North China have become unproductive because of the accumulation of salts in the soil. This Station is trying to reclaim this land by selection of salt tolerant varieties and by the removal of salts by the use of minimum amounts of fresh water irrigation and the prevention of the rise of alkali by lowering the present underground water level.

They are also investigating irrigation methods to supplement the rainfall of North China since its distribution during the year is not suited to the best growth of most crops.

Their breeding work on soybeans was started this year with varieties of soybeans gathered from a wide territory in order to select the best variety for Peiping area. Samples of the following varieties of soybeans were furnished by the experiment station for return to the United States.

Collection Number	Variety
31	Changteh—tiger skin bean
32	Paoting—black bean from Paoting and Hopeh
33	Split yellow beans of August
34	Chi Wa—White sea bean
35	Peiping—tiger skin bean
36	Peiping soybean—local name Peiping large yellow bean

37	Soybean from Ma Chiu Chiao—a town 10 miles from Peiping
38	An Yang—black bean from An Yang, Honan province
39	Anyang green bean—from Anyang of Honan province
40	Green bean from Ma Chiu Chiao—a town 10 miles from Peiping

Other soybean samples, Nos. 41, 42, and 42A were purchased at the grain market at Peiping and are of unknown variety.

In North China the land is utilized about 140 percent by double cropping 40 percent of it each year. For example, wheat or barley planted in September or October is harvested in June. This land may then be planted to soybeans corn, sweetpotatoes, cotton, tobacco, or other summer crops. The following spring kaoliang or millet will be planted and harvested in September, and the cycle restarted by following with wheat or barley.

Shantung province is the heaviest soybean producing area in China and soybeans are grown there as the principal crop. This province is credited with 70 percent of China's soybean production. Honan province with 20 percent, with Shansi province next in order. This production rating probably refers to commercial seed production; an estimation of production for home food use would be difficult to make.

(To be continued in May)

—s b d—

HACKLEMAN HONORED BY ILLINOIS SEEDSMEN

At a banquet at Urbana March 10 more than 200 Illinois seed growers and friends presented a cash token of their appreciation to J. C. Hackleman, Illinois College of Agriculture agronomist, for his 30 years' work with them.

The veteran extension crops specialist left March 12 for a 6-month tour of at least 20 states to study their seed improvement work.

J. C. HACKLEMAN

"'Hack' is known all over the United States among seedsmen for his excellent job of helping to increase seed supplies of new and better varieties and then get this seed into wide use among farmers," said Dr. W. L. Burlison, head of agronomy work.

The extension crops specialist on his tour will discuss methods of increasing and distributing new seed varieties with agronomists and cooperating farmers. He will also contact organizations which produce and distribute foundation seed, as well as crop improvement associations.

By September 15 Hackleman will probably have covered at least 10,000 miles in Kentucky, Tennessee, North and South Carolina, Georgia, Alabama, Mississippi, Louisiana, Texas, New Mexico, Arizona, California, Oregon, Washington, Montana, Idaho, Utah, Wyoming, the Dakotas, Minnesota, and Wisconsin.

—s b d—

DORTCHSOY

(Continued from page 22)

regular variety test 3 years and has been consistently outstanding in every respect.

The yield and shatter results obtained in 1946, 1947 and 1948 are presented in the table on page 22. Yields obtained in the tests were about 20 percent higher than field yields harvested with a combine. Both yields and shatter resistance have been consistent from year to year under somewhat different climatic conditions.

Results obtained with Dortchsoy 31 have been confirmed in our own increase blocks and in the fields of our cooperative growers. In several of these fields the beans were left for 1 month to 6 weeks after maturity with very little or no loss from shattering. The photograph was made November 5, 4 weeks after maturity. There was very little shattering, somewhat less than ½ percent. This field was combined December 4th and made 38½ bushels per acre.

Dortchsoy 31 may be described as follows:

Plant type: Medium size, upright, well branched, branches ascending.

Foliage: Heavy, smooth, light green.

Drought resistance: Excellent.

Standability: Excellent.

Disease resistance: Highly resistant to pustule and wild fire.

Pubescence: Dark gray and medium heavy.

Pods: Mostly three (3) beans per pod.

Yield: Excellent.

Shattering: Very resistant.

Bean color: Green with light brown eye.

Bean size: Medium large.

Maturity: Medium late; late October to early November, Little Rock latitude.

—s b d—

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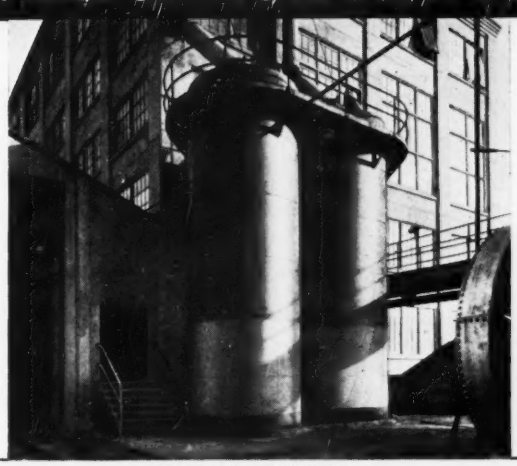

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MARGARINE REPEAL OUTLOOK BRIGHTER

Outlook for repeal of margarine restrictions nationally was considerably brightened by passage of an amended Poage bill by a topheavy majority in the lower House of Congress April 1.

The bill as passed eliminates all taxes and license fees and places no restrictions on yellow color. Only restrictions are to retain identity when margarine is served in public eating places. The vote was 287 for to 89 against.

Margarine forces are now more optimistic about an early favorable vote in the Senate.

After steady progress toward margarine restriction repeal on all fronts for many months the butter forces got in their licks in March. They are not to be counted out—yet.

Not only did they still exert enough influence on the House committee on agriculture to get the Granger bill reported out instead of the Poage bill favored by the American Soybean Association and the National Cotton Council.

They also actually succeeded in getting two laws through state legislatures tightening margarine restrictions, and introduced such bills in other legislatures.

In South Dakota the governor signed a bill that raised the tax on yellow margarine from 10 to 20 cents a pound. And in Montana a law was enacted and signed which provides for wholesalers and manufacturers fees on margarine.

In Kansas, Representative Blythe has introduced HB 423, to make it a misdemeanor to sell colored margarine. It was passed by the House March 24.

There is little rhyme or reason in present butter tactics—in agreeing to removal of certain restrictions on margarine in Washington while pushing enactment of such restrictions in the states. But what the butter men lacked in reason they have made up in ferocity in their efforts to roll back the margarine tide.

Margarine registered a slight gain in North Carolina where S-140 repealing state margarine restrictions passed the Senate March 1.

In Ohio, S. 6, a bill to permit the manufacture and sale of colored margarine, passed the Senate, and was reported out of committee in the House.

The Granger bill reported out of the Federal House agriculture committee, would repeal existing license fees and taxes on margarine. But it would also prohibit shipment of yellow margarine across state lines.

This contrasts with the Poage bill that would simply repeal all existing federal taxes and license fees white or yellow.

The general public is more than ever ranged on the side of tax repeal, the latest Gallup poll on the subject indicates. In March 76 percent of all people interviewed favored repeal. This compares with 69 percent a year ago.

The percentage opposed is 15 percent, the same as a year ago. However, the number who have no opinion is only 9 percent now as compared with 16 percent in March 1943.

The majority of farmers favor repeal of margarine taxes, 54 percent, with 35 percent opposed.

In Canada

Canadian dairymen are appealing the Canadian supreme court decision making margarine legal in Canada. H. H. Hannam, Federation of Agriculture president, has announced his Federation of Agriculture and the Dairy Farmers of Canada have applied jointly for leave to appeal to the judicial committee of the Privy Council.

The Privy Council, sitting in London as the supreme court of the commonwealth, has power to upset the Canadian court's decision ruling that the dominion's 67-year-old ban on margarine was illegal.

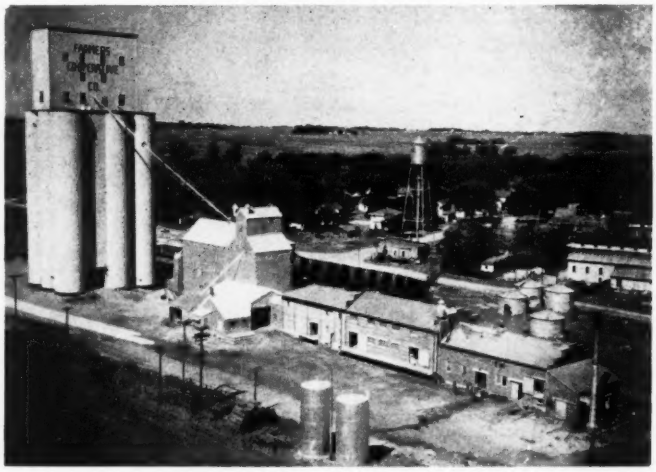
Ivory-hued margarine is in prospect for Ontario and British Columbia, the only provinces preparing to regulate the coloring of the butter substitute, according to the Canadian Press.

Saskatchewan wants the federal government to call dairymen and provincial representatives into conference to set standards.

Quebec has banned manufacture and sale—but not possession — of butter substitutes. Prince Edward Island is continuing its ban pending an appeal by the Canadian Federation of Agriculture against the recent removal of the federal prohibition on making and selling margarine in Canada.

Newfoundland, which became Canada's 10th province March 31, has made and sold margarine within its own borders for years. A condition of Confederation provided that Newfoundland could go on using margarine, regardless of the fate of butter substitutes on the mainland.

This Mill Has Big Storage Capacity



You see the Farmers Cooperative Co. of Dike, Iowa, and part of the town from the air. The 310,000-bushel-capacity storage bins are among the largest in the Midwest for elevator storage. The firm's two-screw-press processing plant was built in 1943. C. M. Gregory is the manager. Construction of additional storage capacity is now under way.

Has Made Seed Improvement a Life-Time Job

LeRoy A. Pike, Pontiac, Ill., 53-year-old junior American Soybean Association director from Illinois, has had a life-long interest in better seeds.

He has been farming for 31 years, all on the same farm in Livingston County. His interest in seed improvement led to the founding of Pike Hybrid Corn Co., a family enterprise.

Pike began with selecting better seed corn for himself and for display at Farmers Institute corn shows. From this activity he was gradually led into the business of supplying seed for his neighbors. In 1936, he became associated with Lawrence Lowe, Aroma Park, in the production of hybrid seed corn. This association still continues.

Pike branched out into the growing and processing of certified seed oats and soybeans when his sons Bob and Fred began to take an active part in farming operations. Together they farm 320 acres. Mrs. Pike is also actively associated with the business, as secretary-treasurer.

LEROY A. PIKE

Expansion of the business has required construction of three new modern buildings in the past 5 years. In 1944 the present modern hybrid seed corn plant was finished. In 1946 a 60x120-foot tile warehouse was constructed and in 1948 the Pikes built the present soybean and oat processing plant. The latter is designed for careful processing and shipping of certified seeds with special provisions for maintaining seed purity. The plant consists of a 40x60-foot tower with overhead bins and cleaning equipment, and a 30x100-foot warehouse at railroad car level. There are eight bins above the cleaner with self-cleaning metal line hopper bottoms.

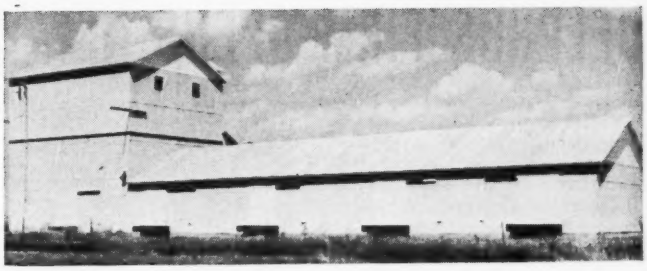
The Pikes expect to handle about 100,000 bushels of seed soybeans and oats through this plant.

Pike has a warm, generous personality and his friendly, genial manner has won him a legion of friends. He is always anxious to help with the affairs of his church and community.

He is assistant superintendent of the McDowell Methodist Sunday School, teacher of the young married people's class, and president of the men's organization of the church. He is a director of the McDowell Farmers Elevator, of the Eppards Point Mutual Fire Insurance Co. and a member of the board of the Methodist Baby Fold, Normal, Ill.

He is a member of the Illinois Crop Improvement Association, the Illinois Seed Dealers Association and the American Seed Trade Association as well as the American Soybean Association.

The picture on the front cover of this issue is of Mrs. Pike, seated; and standing, left to right, Fred, Robert and LeRoy Pike.—Editor.



—Photo Courtesy Seed World

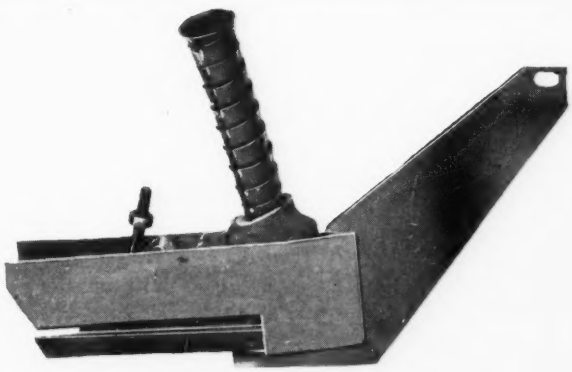
The soybean and oat processing plant of Pike Hybrid Corn Co., Pontiac, Ill. With this plant in operation the Pikes expect to handle about 100,000 bushels of seed beans and oats this year.

—s b d—

NEW SOY CANDY

A new kind of candy was shown at the recent National Chemical exposition, in Chicago, reports *Hospital Topics.*

Apricots, oranges, peanuts, soybeans, bone meal, egg albumin, milk powder and various mineral substances are all blended, in both hard and soft varieties, to achieve a more perfectly balanced food product of wonderful taste.



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Places fertilizer directly below seed with a blanket of protective soil between.

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DELPHOS FIRM OPENS NEW SOLVENT PLANT

Soybean processing operations began late in February in the new Anderson extraction plant of Delphos Grain & Soya Products Co., Delphos, Ohio.

The 3,000-bushel daily capacity solvent extraction plant has all been erected during the past 6 months, much of it under the direct supervision of Floyd E. Hiegel, president and general manager. In fact, most of the work was done after Christmas, when corn-drying operations ceased. The old Expeller equipment, on which the firm had operated for several years, has been sold.

The plant is compact with the soybeans being carried comparatively short distances during operations. New features have been introduced to eliminate fire hazards. The working parts of the extraction tower have been made more accessible than in previous plants.

The plant is situated between the Nickel Plate and Pennsylvania railroads and has trackage to handle up to 40 or 50 carloads of soybeans on the two roads daily.

Equipment includes a new live-steam cooker designed by Anderson. Continuous toasting of soybean meal is carried on by live steam under pressure. Randolph driers fired with coke and oil are located at the two ends of the plant, one serving unloading facilities on each railroad. All master controls of the new solvent plant are arranged in the control room on one control panel, where one operator can control temperatures and rate of flow throughout the plant.

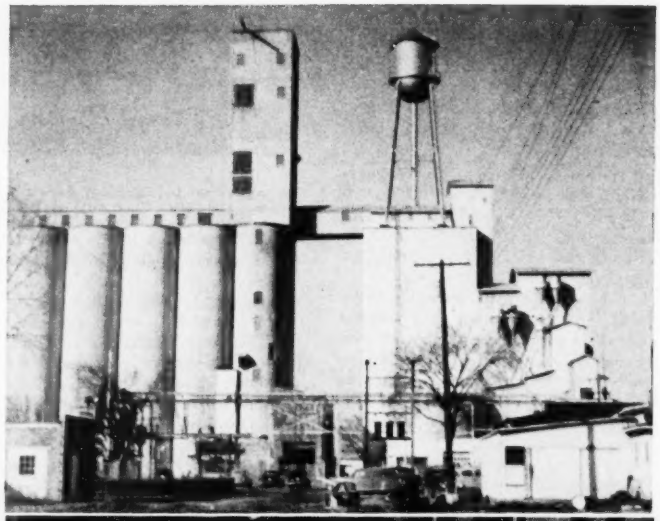
Water is supplied by a 10-inch well on the premises. Its capacity is 500 gallons per minute.

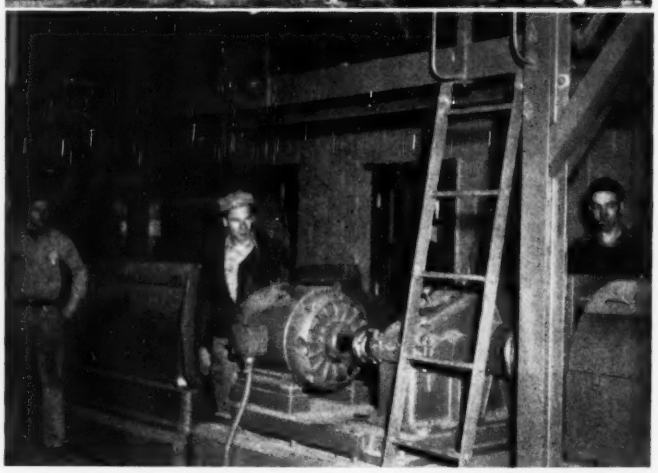
Hiegel has been in the grain and feed business for 30 years, most of the time with his father, C. A. Hiegel, at Liepsic, Ohio. Five years ago he took over Delphos Grain & Milling Co.—he changed its name only recently—and since he has built it from a small country elevator into the leading business in the town of Delphos.

Beginning with three employees he now has fifty. Storage capacity has been increased from 42,000 bushels to 750,000 bushels. He began soybean processing with Expeller equipment in June 1944. All retail business except coal has been discontinued. But the plant is diversified, equipped to handle grain as well as soybeans.

E. F. "Soybean" Johnson veteran of many years in the soybean processing business, is grain and bean buyer for the firm.

The firm is well situated to serve one of the nation's heaviest-soybean producing areas. Over 18 million bushels are grown annually in a 50-mile radius reaching into Indiana on one side.





—Soybean Digest photos

At top, the complete plant of the Delphos Grain & Soya Products Co. Offices are at right. The solvent extraction plant is partially obscured by tree and building at left. Below, left to right in the preparation room are Lloyd D. Hatt, superintendent of the solvent division, Walter Suever, general plant superintendent, and Linus Berelsman.

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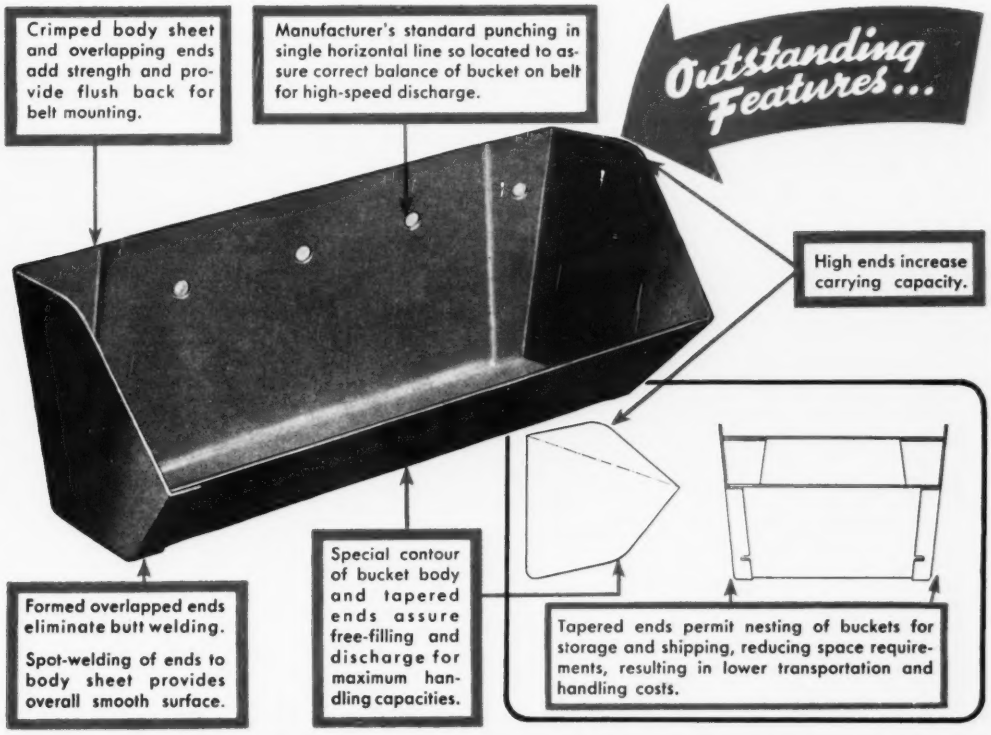
The bucket with ALL the DESIRABLE features

The design combines exceptional strength with light weight, minimizing the elevator line load on long centers.

These buckets are field-proven to be the most efficient for handling grain and other light-weight, fluffy, granular, or powdered fine free-flowing materials into and out of storage, and for handling in conditioning and processing operations.

Capacities of existing elevators can be increased substantially by replacing old style buckets with these "HS" High-Speed Buckets. For capacity and installation data, send for book 2299.

Buckets may be spaced continuous, or at intervals, to provide required capacities.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Crimped body sheet and overlapping ends add strength and provide flush back for belt mounting.
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Special contour of bucket body and tapered ends assure free-filling and discharge for maximum handling capacities.
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Publications

APF MAY INCREASE SOYMEAL USAGE

Science has scored again with a discovery that may open the way to better feeding of farm animals.

The animal protein factor (known as APF) essential to efficient feeding of hogs and chickens has been isolated in the laboratory and is being tested as a feed supplement.

This is the factor that is added to vegetable proteins such as soybean oil and linseed oil meal to give livestock feeds the "kick" necessary for best feeding results.

The new test tube concentrate APF actually isn't a protein but a combination of vitamins or vitamin-like substances.

The discovery that the animal protein factor can be made under a fermentation process, either through mold or bacterial action, can make possible greatly increased quantities of this APF. This discovery can result in much lower costs for supplying APF than by using such ingredients as liver meal or fish solubles that are especially rich in animal protein factor.

Under the names of APF, vitamin B-12 and feeding supplement B-1, various concentrates are now being tried in feeding tests to ascertain their usefulness as sources of animal protein factor in swine and poultry rations.

Dr. Damon Catron at Iowa State College is trying out APF in swine feeding tests. He finds that its addition to soybean oil meal produces far better results than the vegetable protein alone.

Some possibilities in the new discovery as outlined by Catron:

1—Concentrates of APF will extend existing supplies of animal protein and cut the cost. There has never been enough animal protein to go around.

2—Addition of concentrated APF to vegetable proteins will make for more uniform feeding rations and get away from the variations now encountered.

3—It would be possible to replace all animal proteins with APF concentrates, though this probably won't happen. Animal proteins from the packing house are more valuable as feed than as fertilizer.

The emphasis on animal protein factor doesn't lessen the need for adequate supplies of amino acids. They still are basic.

Soybean oil meal is rich in most amino acids but lacks animal protein. For feeding swine and poultry, it needs addition of the animal protein factor in either natural or culture form.

Dr. H. R. Bird of the Agricultural Research Administration, in his experiments at Beltsville, Md., found vitamin B-12 produced by mold and bacteria so effective that he believes that "together with soybean oil meal it will be capable of producing animal protein supplements needed in diets for growing chicks and turkeys."

To make APF concentrates available to farmers for livestock feeding will take time. Manufacture is only in the pilot plant stage with most firms. Many more feeding tests need to be made before the feeding experts would want to make any specific recommendations.

APF—IS IT OPENING A NEW DOOR TO NUTRITION? By J. S. Russell, *Iowa Farm and Home Register*. Feb. 6, 1949.

Reversion Cause

Lecithin remaining in deodorized soybean oil is not the cause of its flavor instability, as believed by German processors. Rather, it may have a distinctly beneficial effect, according to experimental results at the Northern Regional Research Laboratory, Peoria 5, Ill.

German processors have used exhaustive water washing as a "degumming" step to remove the lecithin. But the Laboratory found that exhaustive degumming does not improve the flavor characteristics of refined soybean oil and that lecithin itself can be added to the deodorizer with a distinctly beneficial effect.

Citric acid, which the German processors added to "inactivate" remaining traces of lecithin, actually performs the function of a "metal scavenger" by reacting with minute amounts of metallic impurities in the oil. In the absence of a metal scavenger, these metals speed up or catalyze the oxidation and flavor deterioration of the oil.

Lecithin itself contains phosphoric acid and appears to exert its beneficial effect by functioning as a metal scavenger. Since all metal scavengers studied to date except lecithin are not directly soluble in the oil, attempts to synthesize fat-soluble

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BROKERS TO THE SOYBEAN PROCESSOR

metal scavengers are now in progress.

The Laboratory also describes a new refining-loss test it has developed for soybean oil.

REPORT OF THE CHIEF OF THE BUREAU OF AGRICULTURAL AND INDUSTRIAL CHEMISTRY, AGRICULTURAL RESEARCH ADMINISTRATION, 1948. U. S. Department of Agriculture, Washington 25, D. C.

Disease Problem

About 10 species of fungi (molds) cause diseases of soybeans. Besides being able to cause severe injury to the plants, some of them can result in extensive damage to seeds in storage.

The plant pathologists at University Farm, St. Paul, Minn., are investigating especially the soil fungus *Rhizoctonia* which is a "triple threat" to soybean fields. This plant killer is found in all soils wherever crops are grown. The mycelium (vegetative threads) of this mold can, under favorable conditions, cause 100 percent "damping-off" (killing of the seeds and seedlings) of all the common Minnesota soybean varieties.

The struggle for survival is only half won by the plant if the seeds or seedlings escape damping-off, because the fungus may still continue to attack growing plants, partly or completely girdling the stems near the ground.

Studies made in the laboratory and in the greenhouse have shown that this triple threat fungus can excrete toxic substances which poison soybean seeds and seedlings even when the fungus itself does not penetrate the plant. The diluted toxic substances from a strongly pathogenic strain of *Rhizoctonia* were found to reduce seed gemination and check root development of the seedlings.

Chemical seed treatment, resistant varieties, and crop rotation are three possible methods for controlling the damping-off caused by fungi. The investigations made by plant pathologists have been confined to seed treatments for controlling root-rotting molds.

Thus far, there have been no soybean disease epidemics in Minnesota.

FUNGI THAT POISON SOYBEANS. By Michael G. Boosalis and M. F. Kernkamp. *Minnesota Farm and Home Science*, Nov. 1948. University Farm, St. Paul 1, Minn.

Chinese Foods

The results of the analyses of 56 Chinese foods for ash, moisture, nitrogen, calcium, phosphorus, iron, carotene, thiamine, riboflavin and niacin are reported in *Journal of the American Dietetic Association*.

The analyses were made during the war when it appeared that large numbers of U. S. troops might be billeted in China and that they would need large amounts of food grown in China. Samples of the food were collected by the staff of the Chinese Institute of Nutrition, flown to the U. S. by the Army Transport Command and analyzed at the laboratories of the Massachusetts Institute of Technology.

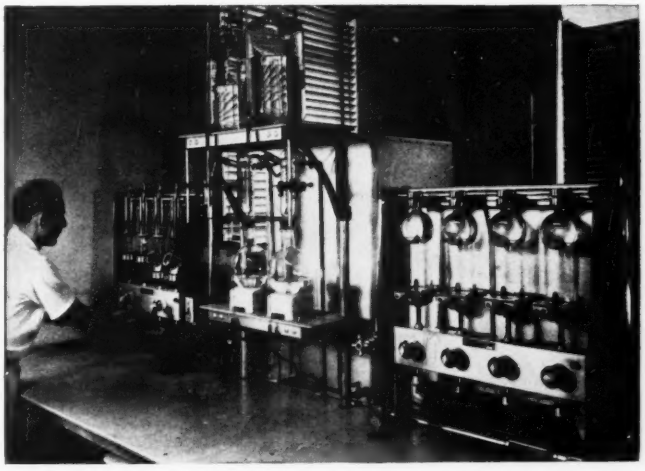
Results of the analyses of soy foods collected in China are shown in the table below.

THE COMPOSITION OF CHINESE FOODS. By Robert S. Harris, Florence K. C. Wang, Ling H. Wu, Chi-Hsuen S. Tsao and Lenore Y. S. Loe. *Journal of American Dietetic Association, Jan. 1949*. Chicago, Ill.

COMPOSITION OF CHINESE FOODS

American Name Chinese Name	Water	Ash	Nitrogen	Calcium	Phosphorus	Iron	Carotene	Thiamine	Riboflavin	Niacin
	gm./100 gm.			mg./100 gm.						
Soy, cheese Ch'ou tou fu lu	79.8	12.5	2.3	303	222	4.1	0.05	0.00	0.14	0.5
Soy, curd Tou fu	88.6	1.0	1.5	75	102	2.1	0.00	0.05	0.03	0.7
Soy, curd fermented Tou fu lu	64.4	20.9	1.9	214	174	3.3	0.06	0.01	0.12	0.6
Soy curd sheet Ts'ian chang tou fu	45.3	1.8	5.2	284	291	0.7	0.00	0.07	0.10	0.9
Soy, curd, smoked Tou fu kan	50.3	3.1	3.2	571	182	3.9	0.00	0.04	0.02	0.1
Soybean, fermented Tou chi	53.2	16.0	2.2	130	183	4.2	0.07	0.00	0.41	1.1
Soy, milk clot (oil skin) Yu pi	20.4	2.3	6.8	319	179	0.3	0.06	0.31	0.18	0.2
Soy, sprouts Huang tou ya	57.0	1.3	1.6	126	107	0.4	0.06	0.22	0.09	0.8
Soybean, yellow (dried) Ta tou	11.5	4.5	5.7	333	466	3.6	0.03	1.25	0.15	2.5
Soybean, yellow (fresh) Mao tou	45.1	2.9	4.1	44	223	3.3	0.06	0.40	0.30	1.3

— Advertisement —



FAST AND SURE — In the modern laboratories of the Burrus Mill & Elev. Co., feed chemist J. L. Thornton accurately and rapidly determines the fat and fiber content of the company's feed. His "Goldfisch" extraction apparatus (left), crude fiber condenser (right), and specially-equipped work table were manufactured by the Laboratory Construction Co., specialists serving the feed and soybean industries for more than 20 years. Other leading feed concerns using "Labconco" equipment to control their products include Allied Mills, Inc., Central Soya Co., V. Drackett Co., Ohio Dept. of Agriculture, Spencer Kellogg & Sons, A. E. Staley Mfg. Co. Whatever you need — equipment for protein, fat or fiber determinations . . specialized tables . . . acid-proof sinks . . . carts — it will pay you to get in touch with Laboratory Construction Co. Plans and estimates are free for those building new laboratories, large or small; literature on all "Labconco" equipment available on request. Write today to Laboratory Construction Co., 1113 Holmes street, Kansas City, Mo.

GRITS and FLAKES... FROM THE WORLD OF SOY

Planters Oil Mill, Tunica, Miss., is planning the erection of a new all-steel seed house of 8,000-ton capacity and a steel storage tank of 5,000-ton capacity. Both will be used for cottonseed and soybean storage. The firm will also install a new modern unloading system in time for next season's operations.

* * * *

Thomas W. Hutchinson is now superintendent of the new 1-million-dollar solvent extraction plant of the West Tennessee Soya Mill, Tiptonville, Tenn. He had been with the Spencer-Kellogg & Sons, Inc., solvent extraction plant at Des Moines, Iowa, for the past 10 years.

* * * *

R. H. Ayers has been transferred from the Detroit sales office of Chase Bag Co. to the position of sales manager of the firm's Toledo branch. He will direct sales in Ohio and parts of Michigan, Indiana and West Virginia.

* * * *

Austin S. Igleheart and Harold H. Helm have been elected directors of Commercial Solvents Corp., New York, N. Y. Igleheart is president of General Foods Corp., and Helm is president of the Chemical Bank & Trust Co.

* * * *

Norris F. Krueger was recently transferred from the Swift & Co. soybean mill at Fostoria, Ohio, to Cairo, Ill., where he will act as sales manager.

* * * *

S. A. Karjala recently moved from Central Soya Co., Inc., Decatur, Ind., to Rheumatic Fever Institute, Chicago, Ill.

* * * *

Formulas employing soy protein in candy which were developed by the Southern Regional Research Laboratory, New Orleans, in conjunction with the National Confectioners' Association, were published in the March 15 issue of *Candy Industry*.

* * * *

Harold E. Huber has been appointed head process engineer of the votator division of the Girdler Corp., Louisville, Ky. He began his career with Standard Oil Co. of Indiana in 1938 and joined Girdler in 1943.

* * * *

Fireman Walter Moore, Swift & Co., soybean mill, Fostoria, Ohio, won a radio in the Swift special suggestion contest for his suggestion on a means of curtailing repair costs for a conveyor belt.

* * * *

Fire caused by dust accumulated in a processing pipe at the soybean mill of Marshall Mills, Inc., Marshalltown, Iowa, caused a small amount of damage.

* * * * *

W. G. Moore & Son, wholesale and retail dealers in soybean and field

MOVE BY WEIGLE

W. G. WEIGLE

W. G. Weigle, ASA director for northern Ohio, has changed location. He has moved to north central Ohio, where he is starting a professional farm management business, to be known as the Weigle Farm Management Service, at 20 S. Benton St., Mansfield, Ohio.

Beside management and operation of farms for city and non-resident investors, Weigle is also qualified to do rural appraisal work, and act as agricultural consultant for farm owners and operators in planning their crop and livestock programs, and solving their building, drainage, conservation and other problems.

Weigle has been farm manager for

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Weel, it's wise and thrifty to deal with folks who really know bur-r-rlap*. . . folks you know you can depend on. So for the famous Angus Bur-r-rlap or whatever grade you need . . . *look to Bemis!*

Anither important point . . . There's a Bemis plant verra near you for better sairvice wherever you are.

*Each year Bemis determines the grading of burlap produced by the Indian jute mills. Bemis' grading is accepted by producers and users alike as the standard for burlap quality. This acceptance as the "supreme court" of the industry comes from Bemis' long and unequalled experience as importer, converter and distributor of burlap.

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Norfolk • Oklahoma City • Omaha • Phoenix • Pittsburgh • St. Louis • Salina
Salt Lake City • San Francisco • Seattle • Wichita

seeds, Cardwell, Mo., have bought the Cardwell plant of the Blytheville Soybean Corp.

* * * *

Raymond E. Cray, Ralston Purina Co., has joined the Ohio State University poultry husbandry staff. He formerly was with the Ohio Agricultural Experiment Station at Wooster, Ohio.

* * * *

G. J. (Jack) Zahringer, Jr., has been appointed to the Chicago sales staff of the American Mineral Spirits Co. He will be in the firm's Midwest territory with headquarters in Chicago. He joined the company in mid-1943, and has been covering research projects involving solvents and industrial naphthas.

* * * *

Charles W. Loomis, director of personnel of Bemis Bro. Bag Co., was elected a vice president of the company by the board of directors at the board's annual meeting held recently at the general offices in St. Louis. He joined Bemis in the firm's Boston office in 1916.

* * * *

D. E. Weld, formerly of Eagle Grove, is new manager of the Boone Valley Cooperative Processing Association soybean plant at Hubbard, Iowa, succeeding Paul Hudgins, who has taken over management of the Farmers Elevator at Ellsworth, Iowa.

* * * *

J. A. Ewing has been appointed federal and state agricultural statistician in charge, Springfield, Ill., succeeding the late A. J. Surratt who was fatally injured in an automobile accident Nov. 13. Ewing has been engaged in crop reporting work in other states and on the Crop Reporting Board in Washington, D. C. He began his career in Surratt's office in 1929.

* * * *

Commercial Chemical Development is title of a leaflet offered by R. S. Aries & Associates, chemical engineers and economists, 26 Court St., Brooklyn 2, N. Y., describing their services.

* * * *

Durkee Famous Foods, Cleveland, is carrying a series of advertisements in national magazines dramatizing the appeal of yellow margarine to tie in with the current campaign to repeal margarine restrictions.

* * * *

Herbert Roszell has been named assistant to Larry Trempel, baking industry technician of the industrial sales department of A. E. Staley Manufacturing Co., Decatur, Ill. Roszell, a food chemist, has been specializing in dairy production and technology, industrial administration and management.

* * * *

Directors of the Glidden Co. have elected Clifton M. Kolb senior vice-president and member of the executive committee. He has been secretary of the company at Cleveland since 1929 and began his career with Glidden in 1922.

* * * *

Information on the use of monosodium glutamate in the preparation of processed foods is contained in a brochure just printed by A. E. Staley Manufacturing Co., Decatur, Ill. The company has also prepared a technical data sheet for the use of chemists and food technicians.

Marsh Foundation Farms, Van Wert, Ohio for the past 16 years. He has developed a profitable crop and livestock program on this 1,400 acres that has won national reputation. He played an important part in the development of western Ohio as one of the highest-producing soybean sections of the U. S., by introducing and distributing the varieties best adapted to the area. He was particularly responsible for the early introduction and wide distribution of Richland and Lincoln varieties in western Ohio. He is a past president of the Ohio Seed Improvement Association, and has been cooperating continuously with the U. S. Department of Agriculture and the Ohio Experiment Station in testing new varieties and cultural methods.

He was one of the founders of the Van Wert Soybean Roundup, which has for a number of years done an outstanding piece of educational and promotional work in the area.

Weigle's venture is not new work to him as he has had years of experience in this field. However, it is to be hoped that he will not lose contact with his old friends in the soybean industry.

L. K. DROOM IS KILLED

Lawrence K. Droom, 39, well known Chicago vegetable oil broker, was killed March 19 when his plane crashed into the sea near Pensacola, Fla.

Droom was partner with Carl H. Smith and George Dahlin of Roesling, Monroe & Co., 327 So. La Salle St., Chicago, Ill.

He was a lieutenant commander in the Naval Air Reserve at Glenview, Ill. He had left the Glenview station earlier in the week in command of an air reserve group for annual carrier training and was piloting a Corsair fighter plane. The plane was landing on a carrier at the time of the accident.

327 So. La Salle St., Chicago 4, Ill. Phone: Harrison 7-5244

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A TRIAL WILL CONVINCE YOU OF OUR SINCERITY AND ABILITY TO SERVE YOU WELL
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REAR ENGINE
MODEL G
PLANTS AND CULTIVATES
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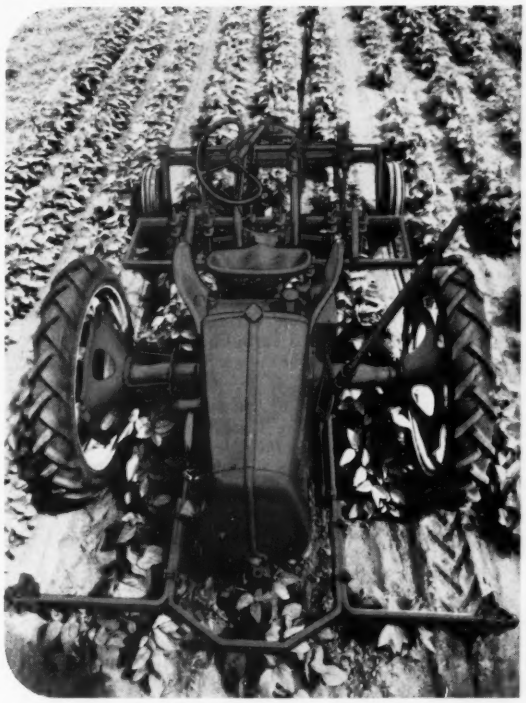
IN ANY ROW SPACING



The versatile Model G tractor is ideally suited for soybeans . . . *in any row spacing.* It will plant and cultivate THREE 18, 20 or 21-inch rows; or TWO 24 to 42-inch rows. In addition, it offers soybean growers these five important operating advantages:

1. Rear-engine design — better traction.
2. Matched, *front-mounted* tools — all quick-hitch.
3. Clear, unobstructed vision.
4. Four speeds, including "creeper" gear for precision work.
5. Rock-bottom fuel economy — quarts instead of gallons.

With its extensive line of low-cost, front-mounted planting and cultivating tools, the Model G can be equipped to meet the exact requirements of the soybean grower, regardless of the row spacing or method of cultivation he may employ. In addition, its speed, adaptability and extreme operating economy enable him to cover his ground as rapidly as conditions permit . . . and at exceptionally low cost.

ALLIS-CHALMERS
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

(At top) Model G Tractor equipped with 60-inch double tool-bar and tools arranged for cultivating three 20-inch rows. A variety of sweeps and shovels is available. (Below) Model G with power-driven seeder. Can be equipped to plant three 18, 20 or 21-inch rows of soybeans, or two 24 to 42-inch rows. Capacity of hoppers, 9½ quarts each. Will plant up to 20 acres per day. Also, 2-row drill planter for 30 to 42-inch rows.

L. E. Herberger has been appointed advertising manager of the Archer-Daniels-Midland Co.'s feed department, Minneapolis. He has served as territorial sales supervisor for the Archer feed department and also has been in sales and promotional work for Commander-Larabee Milling Co.

* * * *

W. H. Holtzman, St. Louis, is representative of Sprout, Waldron & Co. Muncy, Pa., in several Midwest states. His territory includes Missouri, southern Illinois, northern Arkansas and the western halves of Kentucky and Tennessee.

* * * *

"Saga of the Soys," telling about the new uses for soybeans and developments in the industry, was an article by Carl A. Leuthold and Dorothy Odell in the March issue of *Capper's Farmer*.

* * * *

G. H. Banks, O. H. Acom Farms, Inc., Wardell, Mo., was a speaker on the program of the National Farm Chemurgic Conference at Memphis, Tenn., Apr. 1. His subject: "Soybeans—an Industrial Crop for the South."

* * * *

After serving the Chicago Board of Trade almost 53 years, Clarence W. (Bill) Dexter is retiring April 30 from his position as chief clerk and financial secretary of the Board of Trade gratuity fund.

* * * *

Bulletin No. 92.7, "Iowa Land Utilization," published by the Iowa Crop and Livestock Reporting Service, Des Moines, includes maps showing percentage of land in soybeans in each county in the state.

* * * *

Geo. M. Strayer, Hudson, was re-elected president of the Iowa Agricultural Experiment Association at the annual meeting in Ames in connection with Farm and Home Week.

* * * *

Robert R. Evans has been employed by A. E. Staley Manufacturing Co., Decatur, Ill., as an industrial sales department representative. He was formerly employed by Midwest Dairy Products Co., at Decatur.

* * * *

Appointments to the technical service and research division of A. E. Staley Manufacturing Co., Decatur, Ill., include: William R. Eichelberger as research chemist; Donald E. Paul as junior research chemist; and Richard C. Hansen as chemist in the food laboratory.

* * * *

Yard is being graded and chat is being spread on top of the gravel to create a smoother road from highway to seed unloaders at the Swift & Co. oil mill, Portageville, Mo.

* * * *

L. B. Hansen, Swift & Co. sales manager, Cairo, Ill., has been transferred to Swift's general feed department in Chicago.

NEW STALEY PLANT

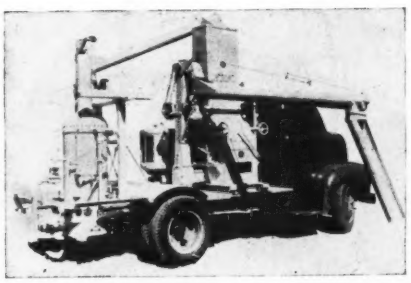
Plans to replace A. E. Staley Manufacturing Co.'s pioneer soybean oil Expeller plant at Decatur, Ill., with a new and modern solvent extraction plant at a cost of "several million dollars" have been announced here by E. K. Scheiter, executive vice president.

The new extraction plant will be erected on a site adjacent to the company's present extraction plant, which was completed in 1945.

The new plant will not increase the total soybean processing capacity, merely replace an old process with a newer and more efficient one.

"Quite frankly, we would rather defer any additional capital expenditures at this time," Scheiter said. "We feel, however, that to protect the company's long range position in the industry and to maintain the highest possible employment levels, we should proceed to bring the remainder of our soybean processing facilities up to date. We are making this move now to keep the Staley Co. in a favorable competitive situation".

The company's engineers have not yet determined how the new equipment will be installed or the amount of building construction involved. Many of the steam, power, water and railroad facilities serving the existing extraction plant will be available for the new project. It is expected the plant will be completed by July 1950. New building in connection with the project will be kept at a minimum because of present high construction costs.



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Also available as a stationary unit with or without boiler. An excellent unit for use as a flaking roller mill on all soft grains including soy beans.

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Even the best soybean seed does better when it's treated with Du Pont "Arasan" seed disinfectant and protectant. "Arasan" helps to boost stands and yields because it protects your seed from decay, damping-off and many seed-borne diseases. This protection is especially effective when the seed coats are injured, or when the weather is bad for germination.

RESULTS SHOW IT PAYS

OHIO—At the Experiment Station, "Arasan" treatment gave 42.8% increase in soybean stands. **VIRGINIA**—A spectacular increase in stand with low-vitality soybean seed was obtained with "Arasan" treatment according to an official Virginia Plant Pathology report.

GET EFFECTIVE PROTECTION: Many seedsmen now treat all their seed with "Arasan." For best results, specify "Arasan"-treated seed. If the seed is not treated, an elevator or custom treater can do the job efficiently. Or if you prefer to treat your own seed, just follow directions on the can. For further information about "Arasan" and free test samples, write Du Pont, Semesan Section, Wilmington 98, Delaware.

"Arasan" is the registered trade mark of E. I. du Pont de Nemours & Co. (Inc.)

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WASHINGTON Digest

By PORTER M. HEDGE

Washington Correspondent for The Soybean Digest

THE 1949 CROP. A 1949 soybean crop of 182 million bushels off 9.8 million harvested acres is indicated by the Department of Agriculture's March report on farmers' intentions to plant.

The total 1949 acreage for all purposes is indicated at 11,300,000 acres. This is the lowest since 1941, but still only 400,000 below last year.

The report says soybean acreage has stabilized considerably in the last few years. "The acreage changes this year are remarkably uniform by areas.

The South Atlantic area indicates a reduction of 5 percent, the North Central area 4 percent, and the South Central area 2 percent below 1948.

"Individual states report sharper percentage changes. In the heavy producing North Central states, changes range from a 14 percent reduction in Michigan to a 15 percent increase in Kansas.

"Yields in Kansas were relatively good last year. With favorable weather conditions this spring, growers plan to increase their acreage over last year to a level more nearly comparable to that of the six years previous to 1948.

"Illinois . . . indicates a decline of only 1 percent from last year's planted acreage, and only a slight reduction from the 10-year average.

"Missouri, with no change in acreage, is the only major producing state of the North Central area which does not show a reduction in acreage from a year ago.

"Ohio and Indiana each have reductions of 6 percent, while sharper decreases—9 percent each—are indicated for Iowa and Minnesota.

"The reduced acreage in the South Atlantic area is due largely to an 8 percent decrease in North Carolina. In that state, many farmers have become discouraged by very unfavorable harvesting conditions during the past two seasons.

SOYBEANS
Acreage planted [1]

State	Average 1938-47	1948	Indicated 1949	1949 as percent of 1948
	Thousand acres			Percent
N.Y.	16	6	6	100
N.J.	34	22	26	118
Pa.	82	46	44	96
Ohio	1,055	940	884	94
Ind.	1,507	1,544	1,451	94
Ill.	3,401	3,425	3,391	99
Mich.	145	70	60	86
Wis.	126	40	40	100
Minn.	807	863	785	91
Iowa	1,660	1,605	1,461	91
Mo.	668	823	823	100
N. Dak.	[2]8	9	10	112
S. Dak.	[2]18	33	33	100
Nebr.	31	26	23	90
Kans.	177	188	216	115
Del.	57	60	63	105
Md.	79	65	60	92
Va.	152	140	140	100
W. Va.	41	14	12	88
N. C.	376	384	353	92
S. C.	40	60	60	100
Ga.	90	70	62	89
Ky.	181	194	175	90
Tenn.	205	217	228	105
Ala.	271	176	158	90
Miss.	327	261	261	100
Ark.	303	312	328	105
La.	114	119	101	85
Okla.	20	16	19	119
Tex.	21	5	5	100
U.S.	11,607	11,733	11,278	96.1

[1] Grown alone for all purposes.
[2] Short-time average.

OIL TEST. The grain branch of Production and Marketing Administration is now prepared to test and to certify to oil content and oil quality of soybeans and flaxseed.

It's a new service available to anyone at fixed fees. This service was authorized by Congress about 2 years ago. The equipment, personnel and offices are now available to get the service started.

Testing for oil quality will be for iodine number and free fatty-acid content.

The fees for sample testing are $1.50 per sample for oil content, $1 per sample for iodine number of the oil, $1 per sample for free fatty-acid content of the oil.

The fees for lot inspection and certification are the same as for sample inspection, plus a sampling fee of $1 per carload, or fraction of a carload; or 50 cents for 1,000 bushels or fraction when not in railroad cars. For sample testing, certificates will be issued for the samples only.

Three oilseed testing laboratories have been established at Peoria, Minneapolis, and Beltsville. If you're interested in having *samples* tested, send them to the nearest of the following offices:

District Grain Inspection Office, 355 Post Office Building, Peoria, Ill. District Grain Inspection Office, 116 Federal Office Building, Minneapolis, Minn. Standardization Research and Testing division, PMA Grain Branch, Beltsville, Md. Official samples must be drawn according to the method prescribed in the grain inspectors' manual.

VITAMIN B-12. Recent discovery of a way to produce vitamin B-12 synthetically now makes it possible for a ration using soybean meal as the principal source of protein to be as effective in promoting chick growth as one containing animal proteins.

The discovery may be of considerable importance to the soybean meal and other oilseed meal industries. As far as promoting growth is concerned, the addition of B-12 to these meals puts them on a competitive basis with such animal proteins as fish meal.

It's been known for some time that vegetable proteins lacked some unknown substance present in animal proteins, that stimulated growth in animals.

The Bureau of Animal Industry reported the existence of this "unknown" factor in fish meal and cow manure 3 years ago. Since then the substance has been found to be identical with vitamin B-12.

Commercial laboratories first succeeded in isolating B-12 from liver. Merck laboratories of Rahway, N. J. later isolated the vitamin from a fast-growing mold similar to that which produces streptomycin.

Now the way is open for production of the new vitamin on a commercial scale. It's now in pilot plant production, and some is reported being sold commercially.

It's been established at Beltsville that B-12 produces the same growth effects in baby chicks as fish meal. Heretofore, it's always been recommended for maximum growth that a chick starter contain at least 5 percent fish meal, or its equivalent in other animal protein.

Now soybean meal, with B-12 added, can be made as effective. Adding B-12 to a diet containing soybean meal produces as much as a fourth of a pound difference in weight at 6

weeks, compared with the same diet without the growth factor.

B-12 can be injected into the egg, fed to the chick, or fed to the brood hen. All three methods stimulate growth in the chick, but beyond a certain age have little or no effect.

Scientists also believe B-12 will increase hatchability, though they haven't yet established this. It's known to stimulate growth in rats. It's believed to be identical with one of the unknown factors which promotes growth in hogs.

Aside from the medicinal values in treating pernicious anemia, scientists think B-12 will make it possible to bring an all-vegetable diet up to a nutritional par with a meat diet.

—s b d—

REPORTS MARGARINE HAS MORE STABILITY

Vitamin A in margarine is much more stable than Vitamin A in butter when both are stored at ordinary room temperatures, according to Dr. H. J. Deuel and collaborators from the department of biochemistry, University of Southern California.

When several types of Wisconsin and California butter and a number of different margarine samples were stored at a constant room temperature about equal to ordinary summer weather, destruction of the Vitamin A occurred somewhat faster than at the cooler temperatures in refrigerators and deep freeze.

After 41 weeks, however, it was found that more than 50 percent of the original vitamin A was still present in the margarine samples, whereas in three of the four cases, the vitamin A in butter had practically disappeared. The natural yellow pigment in butter, carotene, which is a percursor of Vitamin A, was also destroyed during this period.

The latter observations are not of too great practical value, the investigators said, because long before this time the butter had become so rancid that it was impossible to consume it. However, the margarine after being stored 41 weeks at this temperature was still edible. It is believed by the Southern California scientists that the greater stability of vitamin A in margarine than in butter is probably traced to the presence in margarine of a factor which also prevents it from becoming rancid.

—s b d—

Please mention the *Soybean Digest* when writing to our advertisers.

TAKES USDA POST

K. E. Beeson, Purdue University extension agronomist, Lafayette, Ind., is serving as U. S. Department of Agriculture extension agronomist for the period January 1 to June 30, devoting three-fourths of his time to this work, and carrying on his duties at Purdue during the remainder of his time.

Beeson is maintaining headquarters at O. S. Fisher's former office in the South Building, Washington, D. C. (Fisher retired as extension agronomist last fall.) His work includes compiling an annual summary of crop certification, and contacting extension agronomists and crop improvement association offices in the various states.

—s b d—

Over 200 Champaign County farmers and elevator men attended a meeting sponsored by the National Crop Improvement Council at Champaign Ill., March 9.

HOW TO SELL SOYBEANS

● To get the highest price at the time you sell your soybeans . . . sell to your local elevator man who deals with Cargill. Prices, conditions, demand and supply change by the moment, but through a fast-operating private wire network connecting all principal markets, your local elevator man can give you up-to-the-minute quotations. Sell wisely at the highest price . . . sell to your local elevator man who deals with Cargill.

HOW TO BUY SOYBEAN PRODUCTS

● If you're a dealer or manufacturer who uses soybean oil meal or linseed oil meal, there's a Cargill plant nearby to give you fast, efficient service. Just write, phone or telegraph your order for Cargill 44% Soybean Oil Meal, 41% Soybean Oil Meal or Cargill Linseed Oil Meal. Your nearest Cargill plant will give you prompt delivery.

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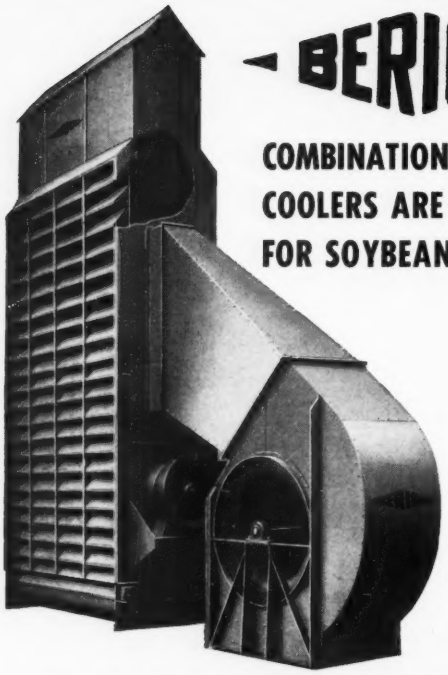

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COMBINATION DRIER-COOLERS ARE IDEAL FOR SOYBEAN DRYING!

Now, when grain processing costs must be kept to a minimum, **BERICO** engineers have perfected, in one efficient unit, a Drier-Cooler that permits drying **and** cooling of Soybeans in one rapid, simple, extremely economical operation! **BERICO** Combination Drier-Coolers are factory-prefabricated, for speedy installation. Heavy steel construction throughout. Adjustable damper, dividing plenum chamber just below the warm air inlet, varies ratio between drying and cooling sections at will. Combination units can be adapted at factory to handle Natural Gas, Oil, Butane or Propane. Available in several sizes to handle any required bushel-per-hour drying capacity. Small units can be easily expanded by mere addition of new column sections.

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"Nucoa" Reg. U. S. Pat. Off.

--- MARKET STREET ---

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate: 5c per word per issue. Minimum insertion $1.00.

FOR SALE—Anderson Expellers all models, as is or rebuilt for specific materials. Pittock & Associates, Moylan, Penna.

FOR SALE—Certified hybrid seed corn, Clinton oats, Hawkeye & Lincoln soybeans. Farmer agencies available. J. R. Spar & Son, Ada, Ohio.

VALUABLE FRANCHISE available for the versatile soya bean food and cosmetic formulas. Universal Soya Bean Lab, 10 Madison Avenue, Montclair, New Jersey.

AN EXCELLENT OPPORTUNITY for capable manager to take over the complete direction of a thoroughly modern soybean processing business. Plant is equipped with solvent process. Owners are in position to expand facilities, but want a manager who has thorough knowledge of all phases of the industry, manufacturing, merchandising soybean and related product markets. Position offers remuneration commensurate with qualifications in experience and ability of the man. Please give full details of previous record, age and other primary facts. Information will be handled in strictest confidence. We repeat, this is a most excellent opportunity for one equipped to assume this position. Write Box 319, Soybean Digest, Hudson, Iowa.

FOR SALE—Hawkeye soybeans, certified. Bagged, tagged and sealed in 2 bu. basg. Outyielded all varieties past 3 years at College of Agriculture. Germination 97%. Earlier than Lincoln. Ideal to follow wheat. Discount for quantity. Donald Ziebart, Wellington, Illinois.

FOR SALE—Indiana certified Hawkeye and Lincoln soybeans in 2 bu. sealed bags. Germination 95%. Fred H. Stuckwish, Vallonia, Ind.

SEED DIRECTORY

ARKANSAS

Burdette—Hale Seed Farms, 7,000 bu. certified Ogden.

Scott—Robert L. Dortch Seed Farms, Grade A certified Dortchsoy 2, Dortchsoy 7, Dortchsoy 31.

ILLINOIS

Anchor—Elmo Meiners, Meiners Grain & Coal, 800 bu. certified Hawkeye.

Annawa—Mell Powell, 500 bu. certified blue tag Hawkeye.

Armington—Raymond Schmidgall, 625 bu. certified Hawkeye.

Atlanta—Mountjoy Hybrid Seed Co., 1,000 bu. certified Hawkeye.

Bethany—Curtis Camic, Rt. 2, 200 bu. certified Hawkeye.

Blue Mound—George Hadden, Rt. 2, 500 bu. certified Hawkeye, purity 99.7 in 2-bu. bags.

Charleston—Dale C. White, Rt. 2, 200 bu. certified Hawkeye.

Chenoa—Clifford W. Gentes, certified Hawkeye.

Concord—C. Otto Nickel, 625 bu. certified Hawkeye.

Fairbury—Fairbury F. F. A., high school, 400 bu. certified Hawkeye.

Fairbury—Douglas Kinzer, Rt. 1, 425 bu. certified Hawkeye.

Fithian—James R. Marron, Rt. 1, 400 bu. certified Hawkeye.

Manteno—James J. Gorman, 300 bu. certified Hawkeye.

Hoopeston—Russell Bros., 250 bu. certified Hawkeye.

Laura—F. M. Oakes, 850 bu. certified Hawkeye.

Maple Park—Lowell D. Oranger, Rt. 2, 1,200 bu. certified Hawkeye.

Mendota—S. F. Beetz & Sons, Rt. 1, 250 bu. certified Hawkeye.

Monee—Arthur Sippel, 500 bu. Hawkeye.

Monmouth—Ralph Wells & Co., 600 South 3rd St., 1,200 bu. certified Hawkeye; 1,600 bu. certified Lincoln; 1,900 bu. certified Mindo oats; 500 bu. certified Benton oats.

Monmouth—Perry W. Beal, Rt. 3, 500 bu. certified Hawkeye.

Orland Park—James Tilsy, 167 St. and 118 Ave., 1,000 bu. certified Hawkeye; 600 bu. certified Lincoln; 300 bu. certified Earlyana.

Palatine—Wm. Rohlwing, Rt. 1, 200 bu. certified Hawkeye.

Plainfield—Graeme Stewart, Willow Gate Farm, Rt. 1, 700 bu. certified Hawkeye.

Pontiac—Pike Hybrid Corn Co., carload lots certified Hawkeye.

Potomac—Richard E. Holt, State blue tagged certified Hawkeye soybeans. Purity 99.7%. Germination 96%.

Princeville—Rolling Acres Farms, Rt. 1, 850 bu. certified blue tag Hawkeye.

Princeville—Dana Stewart, Stewart Hybrids, 400 bu. certified Hawkeye.

Rossville—William W. Foreman, Rt. 1, 250 bu. certified Hawkeye in 2-bu. bags.

Roseville—Samuel E. LaGrow, Box 384, 1,000 bu. certified Hawkeye.

Roseville—V. T. Twomey, Rt. 1, 2,000 bu. certified Lincoln.

San Jose—Kelly Seed Co., 3,500 bu. certified Lincoln; 6,000 bu. non-certified Lincoln; 2,200 bu. non-certified Richland; 600 bu. non-certified Bavendar; 5,500 bu. certified Hawkeye.

Sciota — G. Wayne Welsh, 1,000 bu. certified Hawkeye.

Sciota—Max H. Welsh, 800 bu. Hawkeye eligible for certification.

Steward—Blaine Allen, 500 bu. certified Hawkeye.

Stronghurst—John Johnson, Box 19, 300 bu. blue tag certified Hawkeye in new 2-bu. bags; 275 bu. blue tag certified Lincoln in new 2-bu. bags.

Tonica—Merlin W. Lambert and Wilfred Strack, Rt. 1, 500 bu. certified and tagged Hawkeye.

Ursa—Frank W. Lewis, 800 bu. certified Hawkeye; 1,500 bu. certified Lincoln; 700 bu. certified Viking; 800 bu. certified Clinton oats No. 11.

Wellington—Donald R. Ziebart, Rt. 1, 500 bu. certified Hawkeye.

Witt—Witt Elevator, 3,000 bu. uncertified Chief; 3,000 bu. uncertified Lincoln.

Woodstock—Pell-Bari Farms, Inc., 5,000 bu. certified Hawkeye; 10,000 bu. non-certified Lincoln.

INDIANA

Anderson—Roy Scott, Rt. 5, 200 bu. certified Hawkeye, 300 bu. certified Lincoln.

Cedar Lake—Frank R. DeVries, Evergreen Farms, Rt. 1, Hawkeye soybeans; Vigo wheat; Clinton 59 oats.

IOWA

Charles City—Sar Seed Farms, 2,200 bu. uncertified Earlyana.

Hudson—Strayer Seed Farms, Bansei and Lincoln.

Remsen—Frank Lenertz, certified Lincoln, 93% germination in 2-bu. bags; 2,500 bu. certified Benton oats; 2,500 bu. certified Clinton oats; Mantalm barley.

KANSAS

Florence—Ernest Waner, Rt. 1, 500 bu. certified Hong Kong.

MINNESOTA

Faribault—Farmer Seed & Nursery Co., 56 E. 35th St., 350 bu. certified Flambeau; 1,600 bu. certified Ottawa Mandarin; 900 bu. uncertified Manchu (Wis. 606); 300 bu. certified Hawkeye.

MISSOURI

St. Louis 2—Valley Farms and Cypress Land Farms, 314 Merchants Exchange Bldg., Rickard Korean, Lincoln, Hawkeye, S100, Loredo.

NORTH CAROLINA

Oriental—Lindley Farms, 2,000 bu. Roanoke.

OHIO

Ada—J. R. Spar & Son, Rt. 1, 1,000 bu. certified Hawkeye.

Avery—J. Schlessman & Sons, 300 bu. certified Hawkeye; 800 bu. certified Lincoln; 200 bu. certified Earlyana.

Covington—Raymond Ebberts, Rt. 2, 500 bu. Ohio certified Hawkeye; 500 bu. Ohio certified Lincoln; 100 bu. Ohio certified Richland.

Findlay—Russell Bishop, Rt. 4, 600 bu. certified Hawkeye.

Milford Center—H. M. Bishop, 900 bu. certified Hawkeye.

Troy—Bert Favorite & Sons, Rt. 1, 1,000 bu. certified Hawkeye.

WISCONSIN

Osceola—I. W. Lundberg, Box 86, 125 bu. certified Flambeau.

Beloit—Edgar Huebbe, Rt. 3, 110 bu. certified blue tag Hawkeye grown from foundation seed.

New Steel Storage Tanks

50—10,000 Gal. Cap. R. R. Car Tanks
3—42,000 Gal. & 420,000 Gal. Vert.
15—15,000, 20,000 & 25,000 Gal. Horiz.
2—74,000 Bbl. Cap. Vert.

LESTAN CORP., Rosemont, Pa.

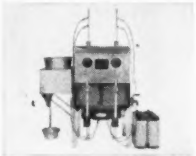
OIL MEAL BROKERS
H. V. NOOTBAAR & CO.
TELETYPE SERVICE BOTH LOCATIONS

"We buy all OUR GRAIN TESTING AND MAINTENANCE EQUIPMENT from SEEDBURO"

That's what Grain, Feed and Seed men have been saying since 1912. Here, "under one roof," will be found a complete stock of grain and seed testing and grading equipment . . . probes, dockage sieves, dockage scales, etc. Besides, they have the satisfaction of dealing with men who have both technical training and practical experience in the Grain and Seed business. Every item is made according to Government standards where specifications have been established . . . every product precision built . . . rigidly inspected during manufacture and before shipment . . . fully guaranteed. The Seedburo Catalog lists not only the products shown on this page, but a host of others. Write for FREE copy today.

Steinlite Moisture Tester

The Steinlite one minute Moisture Tester is EASY TO USE . . . like tuning a radio. The Steinlite operates on the radio frequency impedance principle, and is checked against official oven methods. No technical knowledge necessary. With practice you can make a test in one minute. Used for testing whole grains . . . also finding application in testing tempered grains. Sold on 10-day free trial basis. Price $330.00 F.O.B. Atchison, Kansas.



Brown-Duvel Moisture Tester

The above illustration shows a two compartment tester with the Electric Automatic Shut-off. Price on one, two, four and six compartment testers includes one gallon of Testing Oil, Automatic Oil Measuring and Grain Separating Device, and all necessary accessories. With alcohol testers, a gallon of alcohol is supplied. No. 2 — gas or alcohol heat, $70.00; Electric Heat, $90.00; with Automatic Electric Shut-off, $170.00. Other sizes available.

Portable Electric Blower

Model 8-A — Keep motors, machinery, line shafting and other equipment free from fire hazard dust with a Seedburo Portable Electric Blower. 3/5 H.P. motor. Easily converted into sprayer or industrial vacuum cleaner. Far more powerful than other blowers and durably constructed for many years of trouble free service. Model 8-A is the most popular size for all general cleaning. The G. E. universal motor is mounted on Norma ball bearings. Price $78.65. Attachments extra. Other models available.

Bates Loop End Wire Ties

Bates Wire Ties make bag closing simple, quick and economical. They assure speed and neatness with security and uniformity, at an average cost of less than one mill.

Bates Loop End Wire Ties can be furnished of any gauge wire from 12 to 21, ranging from 2½" to 48 inches in length. All shipments are made in rolls of 5000 ties.

Length	18 Ga.	16 Ga.
6"	$1.00	$1.75
7"	1.10	1.85
8"	1.25	1.95

Minneapolis Bag Truck

25-A-R—This truck has a very long nose, making it particularly useful in handling large, bulky sacks and boxes. Bent plow handles, made of hardwood, rigidly fastened, heavy wrought iron nose with steel strap up the handles, steel plate fastened to nose prevents load from rubbing. Wheels are 7 inches in diameter with durable rubber tires and roller bearings. Handles are 48 inches in length and nose is 9 inches in length. Price $26.10. Other sizes available.

Car Mover

Badger — No. 221 Power King, designed for heavy duty car spotting wherever two or more heavily loaded cars must be moved at one time. All pivotal connections are oversize to minimize wear. Castings are of alloy steel, handle of hardwood. Special rolled steel spurs grip the soft corners of the rail to prevent slipping. Weight 20 pounds. Length 7⅞ inches. Price, $12.50.

Adjustable Bag Holder

The No. 114 Universal Bag Holder is provided with malleable iron jaws, practically unbreakable as it is constructed mainly of soft steel. Quickly adjusted to any height or width of sack, released by a simple movement of the spring controlling the arm. Along the front of the frame is placed a bar for holding a shovel or basket to grade when the bag is filled. Wt. 20 lbs. Price, $9.50.

Randolph "4" Fire Extinguisher

This Carbon Dioxide (CO_2) Fire Extinguisher is scientifically designed for complete safety. The cylinder has a capacity of 4 lbs. CO_2. Special formula shatterproof and pressure-proof steel. Effective against oil, grease, paint, gasoline and electrical fires. Exclusive one hand, thumb trigger operation. Cannot damage or stain food, clothing, woodwork or machinery. Complete with wall bracket, $28.80. Other types of fire extinguishers are also available. Write for complete information.

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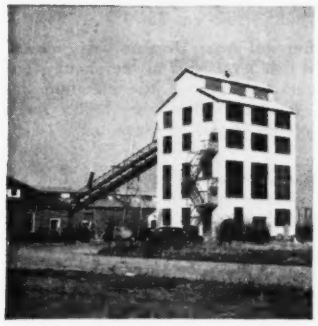
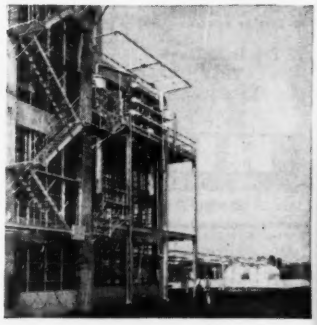


COTTONSEED

"First of its kind in the world" — that was the newspaper story on the above cottonseed oil mill when it started production in March, 1947. It's the Delta Products Company plant for continuous solvent extraction of cottonseed oil, located in Wilson, Arkansas. Allis-Chalmers engineered and supplied equipment for this 200 ton per day mill. And production records show that it has been operating continuously and *profitably* ever since.

SOYBEANS

Here's the Tiptonville plant of the West Tennessee Soya Mill company. One building—divided into two sections—houses the preparation and solvent extraction equipment. Designed by Allis-Chalmers and equipped by Allis-Chalmers, this modern soybean oil extraction mill has been continuously operating since October, 1948. A-C equipment includes processing machinery, solvent extraction equipment *and* power and electrical machinery.



CORN OIL

New and highly successful, this Illinois mill is used for the continuous solvent extraction of oil from corn germ. It's another *money-saving* Allis-Chalmers installation — operating continuously since August, 1948. Processing equipment, extraction equipment and power and electrical equipment were all correlated by Allis-Chalmers to produce this efficient corn oil extraction plant. A-C engineers supervised equipment erection, employe training and initial operation.

Many Other Applications . . . The three products listed above are just a *few* of the many applications for which Allis-Chalmers continuous solvent extraction systems are being used. Successful tests have been made on milled corn, rice bran, peanuts, flaxseed, castor beans, fish meal, and *other* oil-bearing materials. Numerous plants for the continuous solvent extraction of these oils — with *Allis-Chalmers* systems — have already been built or are being constructed today. And many inquiries are coming in every week.

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In The MARKETS

MARKETS LOWER IN MARCH

Markets for soybeans and soybean oil both found lower levels in March but showed a little strength the last few days of the month.

Soybean oil meal moved upward somewhat the latter part of March after being easy much of the month. The shutdown of some plants producing 41% soybean oil meal brought supply into closer relationship with demand.

But country holders of beans were not pushing them on the market. As one observer put it, "markets were thin on both sides," with both offerings and demand light.

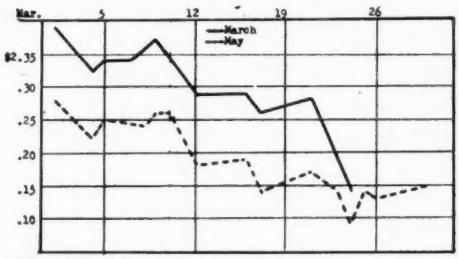
March futures for Chicago No. 2 soybeans opened for the month at $2.397, the high, and closed at $2.14 Mar. 24, a spread of 25.7c. May opened at $2.286 and closed at $2.174. Month's low was $2.09 Mar. 24.

Bulk 41% soybean oil meal Decatur basis opened at $57 and stayed at that level most of the month. The close was $62.50, also the high. Little premium was being paid for 41% meal and some of the largest screw press plants were closed down. Production of 44% meal was good.

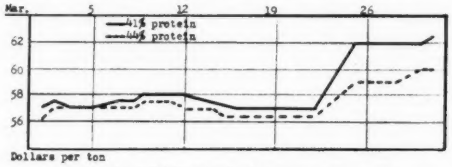
Buyers of oil meal were said to be cautious and not building up large inventories. But increased buying and tighter supplies pushed prices up somewhat the last of the month.

Crude soybean oil in tankcars opened at 12 1/5c.

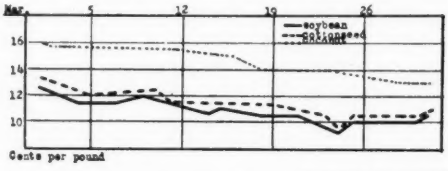
FUTURES CHICAGO NO. 2 SOYBEANS



BULK SOYBEAN OIL MEAL, DECATUR BASIS



CRUDE VEGETABLE OILS, TANKCARS



the high for the month, and closed at 10½c. Low was 9 ¼c Mar. 24.

The trend for the month was down along with other fats and oils. There was a 4-to-5c spread between coconut and cottonseed and soybean oils during March.

The government supplied much of the demand for soybean oil with refiner interest lacking much of the month. The continued slow demand coupled with ample though not heavy supplies was responsible for the decline.

NEW YORK SOYBEAN OIL FUTURES MAR. 31*

Close: May 11.75B, Jly 11.60B, Sep. 11.35B, Oct., Dec., Jan. and Mar. 10.70B.

No sales. B—bid.

MEMPHIS SOYBEAN OIL MEAL FUTURES CLOSINGS MAR. 31*

May, flat 61.00; Jly., flat 55.00; Oct., 48.50-49.50; Dec., 45.00-47.00; Jan., 44.00-46.00. Sales: 600 tons.

*As reported by Chicago Journal of Commerce.

● **USE OF SOYBEAN OIL.** Factory consumption of crude soybean oil during the fourth quarter of 1948 totaled 346,712,000 lbs., reports Bureau of the Census. Of this amount, 337,097,000 lbs. were used in refining.

Nonrefined consumption during the fourth quarter by uses and totals: fat splitting (hydrolysis) 544,000 lbs.; sulphonation 158,000 lbs.; soap 311,000 lbs.; paint and varnish 3,643,000 lbs.; lubricants and greases 139,000 lbs.; other 4,820,000 lbs.

Factory consumption of refined soybean oil during the fourth quarter totaled 292,475,000 lbs., in the following fields: sulphonation 189,000 lbs.; winterizing for salad oil 25,350,000 lbs.; shortening 166,929,000 lbs.; margarine 54,109,000 lbs.; other 9,310,000 lbs.; soap 187,000 lbs.; paint and varnish 22,353,000 lbs.; linoleum and oilcloth 6,115,000 lbs.; printing inks 41,000 lbs.; lubricants and greases 58,000 lbs.; other 7,834,000 lbs.

● **PRIMARY PRODUCTS.** Report by Bureau of Census, U. S. Department of Commerce.

RECEIPTS, CRUSHINGS AND STOCKS OF RAW MATERIALS AT OIL MILLS, JANUARY 1949-DECEMBER 1948*
(Tons of 2,000 pounds)

Raw materials	Receipts at mill Jan. 1949	Crushed or used Jan. 1949	Crushed or used Dec. 1948	Oil mill stocks end of month Jan. 31 1949	Oil mill stocks end of month Dec. 31 1948
Soybeans	329,596	504,892	500,309	1,491,620	1,666,916
Cottonseed	211,838	613,834	670,218	1,664,818	2,066,814
Peanuts[2]: Shelled	(1)	7,180	11,322	(1)	(1)
Unshelled	(1)	4,098	6,556	(1)	(1)
Corn Germs	22,416	24,743	24,428	1,195	3,522
Copra	24,174	29,959	33,343	20,574	26,359
Flaxseed	47,334	74,476	88,972	189,690	216,826
Tung nuts	12,667	10,935	3,259	5,420	3,688
Castor Beans	22,125	13,366	12,589	20,687	11,928
Olives	6,337	5,772	1,237	1,020	455
Other	15,096	13,366	5,848	5,277	3,637

[1]Data not available.
[2]Bureau of Agricultural Economics, U. S. Department of Agriculture collected data on crushings of peanuts.

PRODUCTION, SHIPMENTS AND TRANSFERS AND STOCKS, OF PRIMARY PRODUCTS EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS, JANUARY 1949*

Products	Unit of measure	Production	Shipments and transfers	End of month stocks
Soybean:				
Cake and meal	tons	398,735	392,317	31,572
Lecithin	lbs.	900,030	776,282	1,154,448
Edible soy flour, full fat	tons	314	421	121
Edible soy flour, other	tons	4,322	3,603	2,103

*Reported by Bureau of the Census.

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"I'M BURLY"
"WE'RE GOOD FOLKS TO KNOW"
USED BAGS
AT LOWEST PRICES
Complete assortments of reconditioned used and surplus bags ready for prompt shipment.
Processed and reconditioned in the foremost modern plant in the Mid-West. Each bag is vacuum cleaned, sorted, graded, mended and inspected before baling ready for shipment.
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Made only from strains of bacteria proven to fix more nitrogen

Also Patented UNICULTURE for Clovers and Alfalfa
3 Cultures in One Can

KALO INOCULANT CO., QUINCY, ILL.

● **INSPECTIONS.** Inspected receipts of soybeans in February showed continued improvement in quality, according to reports to the Department of Agriculture. Seventy-five percent of the February inspections graded No. 2 or better, the highest percentage since October when 78 percent fell in these grades.

February inspections were slightly below those for the preceding month and totaled 5,202 cars. The average for the month of February for the crop years 1942-46 was 3,331 cars. Inspected receipts for October through February were 68,890 cars compared with 62,269 cars for the same months last season.

● **SOYBEAN OIL MEAL USAGE.** A slightly smaller percentage of soybean oil meal produced in the 1947-48 crop year was consumed as livestock feed than the 2 preceding years, R. G. Houghtlin, president of the National Soybean Processors Association, Chicago, announced.

A larger percentage of soybean oil was used in the edible field in the 1947-48 crop year than the year previous, but smaller than during the war years, according to Houghtlin's report. Percentage of soy flour finding edible uses is showing a consistent increase.

	CROP YEAR 1947-48	CROP YEAR 1946-47	CROP YEAR 1945-46
SOYBEAN OIL MEAL (Tons)	%	%	%
Livestock feed	96.8	72.2	97.2
Industrial	2.0	1.6	2.7
Fertilizer	.1	.1	.0
Export	1.1	1.1	.1
	100.0	100.0	100.0
SOYBEAN OIL (Lbs.)	%	%	%
Edible	83.6	82.1	87.7
Industrial	16.4	17.9	12.3
	100.0	100.0	100.0
SOY FLOUR (Lbs.)	%	%	%
Edible	95.9	93.7	89.6
Industrial	4.1	6.3	10.4
	100.0	100.0	100.0

● **SOYBEAN STOCKS.** Production and Marketing Administration's commercial grain stock reports for Mar. 1-22.

	Mar. 1	Mar. 8	Mar. 15	Mar. 22
Atlantic Coast	1,493	1,693	1,341	1,318
Gulf Coast	440	477	626	1,317
Northwestern and Upper Lake	780	833	750	643
Lower Lake	3,726	3,339	2,888	1,781
East Central	2,098	2,168	1,879	1,738
West Central Southwestern & Western	1,363	1,227	1,154	1,085
Total current week	9,905	9,742	8,638	8,382
Total year ago	10,453	9,253	9,385	8,620

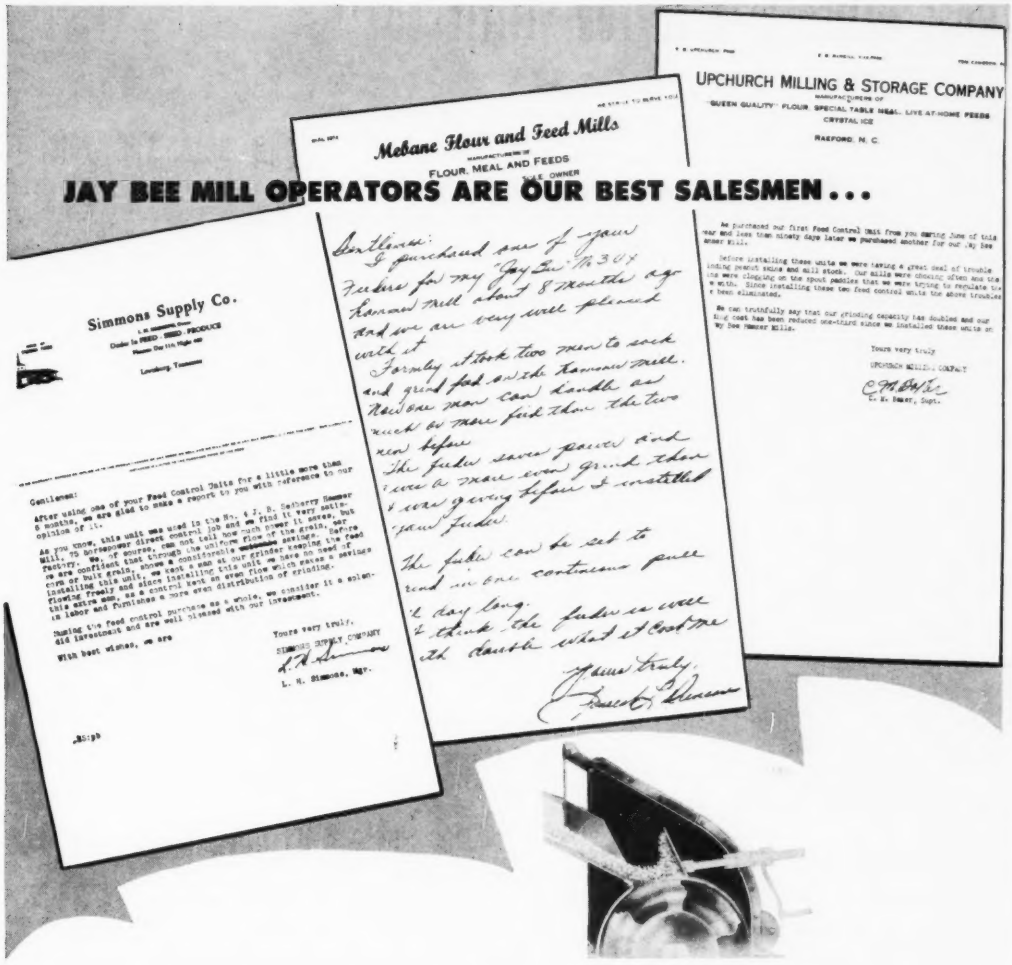
● **SOYBEAN GLUE.** Consumption of soybean glue by the softwood plywood industry in January was 2,221,000 lbs., compared with 2,784,000 lbs. in December and 2,074,000 lbs. in January of 1948.

Consumption of phenolic resin glue was 1,763,000 lbs. in January. Total consumption of all glues was 4,583,000 lbs. in January compared with 5,597,000 lbs. in December, and 6,846,000 lbs. Jan. 1948.

Stocks of soybean glue totaled 1,887,000 lbs. Jan. 31 compared with 1,436,000 lbs. Dec. 31 and 1,491,000 lbs. Jan. 31, 1948.

● **SHORTENING SHIPMENTS.** Reported by members of the Institute of Shortening and Edible Oils, Inc., in pounds.

Week ending Feb. 26	4,432,102
Week ending Mar. 5	4,881,991
Week ending Mar. 12	5,138,071
Week ending Mar. 19	4,767,783
Week ending Mar. 26	4,895,596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You can do a cheaper, faster and better grinding job with a "Constant Feed Control" installed on your Jay Bee Mill. Write today to J. B. Sedberry, Inc., Franklin, Tennessee for folder SD-449 for additional information.

J. B. SEDBERRY, Inc.

Franklin, Tennessee **Tyler, Texas**

LETTERS

MORE NAMES OFFERED FOR "LITTLE GUY"

To the Editor:

I am enjoying *The Soybean Digest* as much as ever and want to commend the excellent work which you are doing.

How about naming "the little man"—page 6, February issue—"Sam Soy" or "Sammy Soy?" My idea here is that Uncle Sam has adopted the little oriental soybean, hence the growth of the soy industry in the United States under the paternal guidance of Uncle Sam might be emphasized by taking the name of the godfather.

Incidentally, when a character of this kind is "born" in such a way that he becomes a component part of a continuing development, it seems to me that as the years progress, the character should grow and mature accordingly. I have in mind the comic strip, "Gasoline Alley" which originated many years ago in the *Chicago Tribune* with Uncle Walt and Skeezix and you know how much interest has been maintained throughout almost three decades as Skeezix was allowed to grow up. It occurs to me that in the fertile brains and constructive imaginations which prevail in your minds, that the legend might build up around "Sammy Soy" which might materialize to the benefit of the original idea which you have brought forth in introducing this little character.—*Walter E. Flumerfelt, chemical division vice president, General Mills, Inc., Minneapolis, Minn.*

To the Editor:

Concerning the "little guy" I propose "Soyboy."—*L. Koch, Platolaan Zeist, Holland.*

To the Editor:

You have pleaded for contributions for naming the little man so here is another one for the hopper.

Since the principal products derived from soybeans are meal and oil use the first letter of each word and name him "Mister Mosoy."—*Art Osgood, assistant vice president, Harris Trust and Savings Bank, Chicago, Ill.*

To the Editor:

I was very sorry to see (page 62 March) an employee of the A. E. Staley Manufacturing Co. claiming historically No. 1 spot for "Gus" Staley as a processor and promoter of soybeans.

Today most well-informed men in the soybean industry know that there were many men who much earlier were actively promoting and processing soybeans: Bradley, Funk on processing; Bill Morse, on promotion—to say nothing of some 10 to 15 growers who were old men in soybean promotion before Staley started in 1922.

I personally would like to see Bill Morse in some way connected with the name of the "little man."—*E. F. "Soybean" Johnson, assistant manager, Delphos Grain & Soya Products Co., Delphos, Ohio.*

To the Editor:

I suggest the name "Morsoy" for the little character in your cartoon series. This will honor the name of W. J. Morse, will suggest that more soybeans should be grown, and will indicate that the edible soybean is a morsel.—*H. W. Johnson, Delta Branch Experiment Station, Stoneville, Miss.*

To the Editor:

Subject: "The Hon. Mr. Ole O. Bean."

The happiest day the Farmers have seen.
Was the wedding of Soy and Soya Bean;
And to this union there came to bless,
The Farmers just out of the wilderness.
A handsome lad with features fair and clean.
"The Honorable Mister Ole O. Bean."

His parents were black and they were blue.
It was first the cow and then the Revenue,
But this bright lad with one black eye.
Is here to say, "I'll never die".

He's about to escape from the Revenue,
That helped the cow and penalized you;
So step aside here comes "Ole".
Remember his name and keep it Holy.

Carl A. Mehaffey, Rt. 3, Williamsport, Ind.

To the Editor:

I suggest we call the little man "Oily Oliver"—for no good reason at all.—*R. F. Uber, chemical sales secretary, Phillips Petroleum Co., Bartlesville, Okla.*

Many thanks for all the suggestions. The "little guy" has been named. See page 8.—Editor.

"WHO SETS THE PRICE?"

To the Editor:

In the February issue of the *Soybean Digest* there was an article by William C. Ratliff of Bluffton, Ind., accusing the soybean processors of controlling the price of soybeans and taking advantage of the farmer. He mentioned that processors hold the beans which they buy during the crop movement until they go up 50 to 75c per bushel, and then sell out the products.

I think that Mr. Ratliff has the wrong idea as to the processors' controlling the price.

Picking some prices at random during the crop movement, I would like to point out that today soybeans are selling at approximately 16c per bushel less than they were on October 15; approximately 26c per bushel less than they were on November 1; and approximately 65c per bushel less than they were on November 22. Any processor that bought a lot of beans during this period wasn't very smart, was he?—*Donald B. Walker, manager soybean and oil meal division, Ralston Purina Co., St. Louis, Mo.*

ILLINOIS F.F.A. CHAPTER

To the Editor:

Seeing the article in the *Soybean Digest*, January 1949 issue, page 26, about the Illinois F. F. A. Chapter exhibit prepared by the Mt. Sterling Chapter, at the national convention, Kansas City, Mo., this past fall indicated that you might like to hear about soybeans and other F. F. A. chapters.

The Fairbury Chapter has produced 30 acres of Hawkeyes during the past season as a cooperative project for the chapter and members. Yields were good and the beans of high quality.

Money derived from the sale of the beans will be used to carry out a broad program of chapter activities. Last year, the Fairbury Chapter won the national award in the chapter activity contest.

We are enjoying the *Soybean Digest* and feel that it has a wealth of important information between the covers.—*Charles Farley, reporter Fairbury chapter, Future Farmers of America, Fairbury, Ill.*

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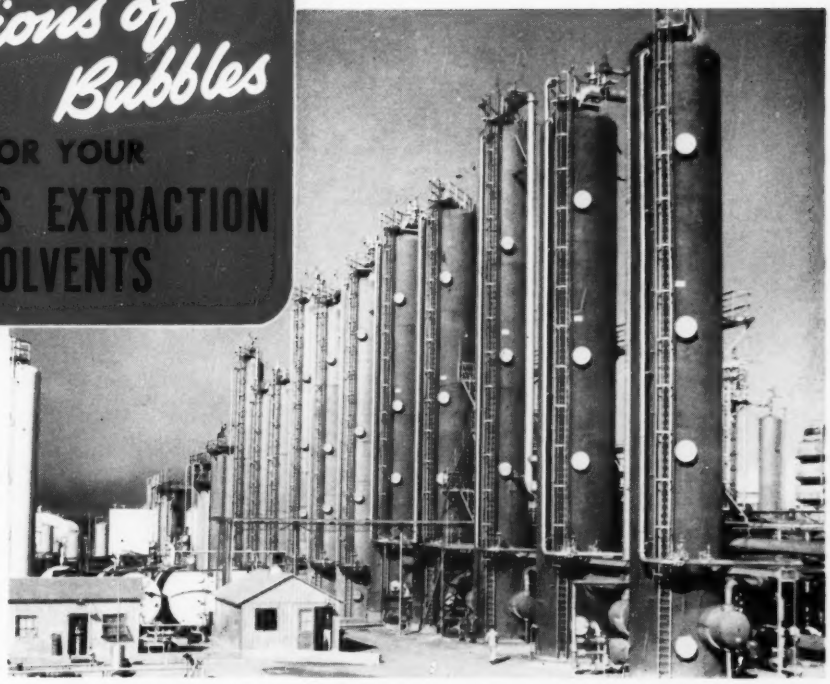
FOR YOUR

PHILLIPS EXTRACTION SOLVENTS



Fractionating columns for production of high specification hydrocarbon fractions.

THAT bubbling spring down on the farm reminds us of the inside of our fractionating columns. Hydrocarbons from many areas are piped to this central location to feed these hungry monsters. The products are many, and among the most important are Phillips 66 Vegetable Oil Extraction Solvents.

More than a million gallons a day of hydrocarbon mixture bubbles through the plates inside these columns to make Phillips a leading producer of normal hexane. This enormous production, backed by control of the nation's largest reserves of natural gas, assures you of dependable solvent supply.

The vegetable oil industry relies on Phillips Solvents for:

- Extremely narrow boiling range
- Consistently high quality, thus minimizing operating problems
- Absence of disagreeable odors and tastes
- Prompt shipment on *time every time*

Plus this: Phillips technical service is yours for the asking.

Phillips Extraction Solvents	*Typical Boiling Range*
Normal Hexane	151 — 156 F
Methylpentanes	139 — 145 F
Normal Heptane	203 — 209 F

Other Phillips Solvents are available for oil extraction use. Write for information.

PHILLIPS PETROLEUM COMPANY

CHEMICAL PRODUCTS DEPARTMENT

Bartlesville, Oklahoma

Phillips 66 SOLVENTS

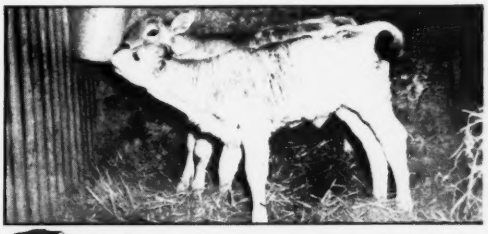
SPECIAL SOLVENTS FOR SOYBEAN, COTTONSEED, FLAXSEED, TUNG NUT, RICE BRAN, CORN GERM, CASTOR BEAN, ALFALFA, ANIMAL FAT AND OTHER OIL EXTRACTION INDUSTRIES

It makes dollars and sense...

TO FEED THE WAYNE WAY

Proof *by Louis E. Bock, Smithfield, Nebr.:* "We've fed Wayne for many years, very profitably. The last 3 years we started 6,000 poults on Wayne Turkey Starter, followed up with Wayne Growing Mash and Turkey Supplement. We averaged 18.3 to 19.6 lbs. dressed turkey at 28 weeks. Feed per lb. of turkey ran 4.4 to 5.2 lbs. One year we fed half our flock a cheaper feed, but found our Wayne-fed turkeys made more profit!"

Proof *by Mrs. E. R. Johnson, So. Vernon, Mass.:* "We started 900 pullets on Wayne Chick Starter, at 6 weeks still had 890 and then changed to Wayne Growing Mash. We picked up the 1st egg at 4 months and 3 days. Our birds are in good flesh and coming into high production. We'll house 850. We have raised our poultry the Wayne Way for 17 years, and have yet to be convinced that we could do better. I certainly recommend the Wayne Way to anyone!"

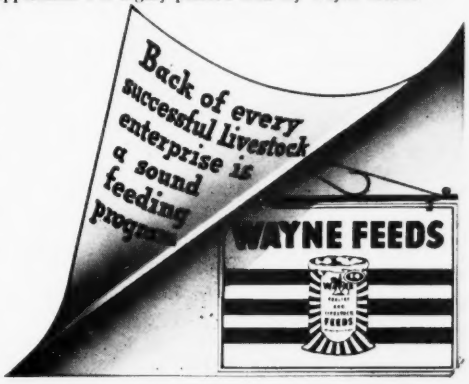


Proof *by Redding Dairy Farm, Ft. Wayne Ind.:* "We like the Wayne Calf Feeding Program. It's much more economical than the old milk-feeding way. Our calves start on Wayne Complete Calf Starter at 7 to 10 days. We feed milk with nipple pails. At 2 mo's, we switch from milk and Wayne Starter to a mixture of 1/3 oats, 1/3 shelled corn, 1/3 Wayne Calf Pellets. During the last 5 years only 1 calf has scoured. We get big, slick calves with minimum milk the Wayne Way!"

Proof *by Verle I. Gallagher, Washington, Ia.:* "I've been feeding Wayne ever since I visited Allied Mills Research Farm several years ago and learned the real meaning of "Ingredient Quality." I had 27 Wayne-fed sows farrow between Feb. 26 and April 2. I weaned 262 head. Sold 258 on Sept. 14, averaging 213 lbs. at average age of 4 days less than 6 mo's. That's 9.5 pigs and over a ton of pork marketed per sow. I fed the Wayne Way from start to finish. My pigs started fast on Wayne Pig Starter, then went on corn and Wayne Hog Supplement. I'm highly pleased with my Wayne results!"

I.Q. TESTED FOR QUALITY — ALLIED MILLS RESEARCH FARM

This "IQ" Seal, boldly displayed on every bag of Wayne, means you get *nutrition that brings top results every time.* It signifies *triple-tests*—chemical, biological and Research Farm—of its "Ingredient Quality." We know of no surer way to guarantee your feeding results. If this quality-control, for *your* protection and *your* profits, makes sense to you . . . switch now to the Wayne Way of feeding your poultry and livestock and let it start making *dollars for you.* Your friendly Wayne Feed Dealer will gladly help you get started.



ALLIED MILLS, INC.

Executive Offices: Chicago, Ill. Service Offices: Ft. Wayne, Ind.

ONE OF AMERICA'S OLDEST AND LARGEST MANUFACTURERS OF FEED . . . EXCLUSIVELY